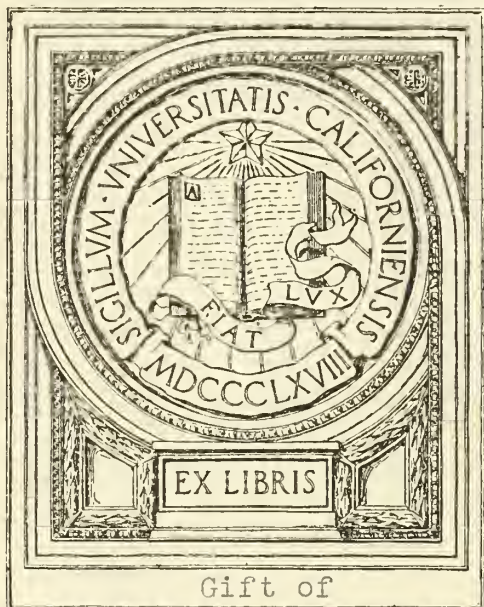
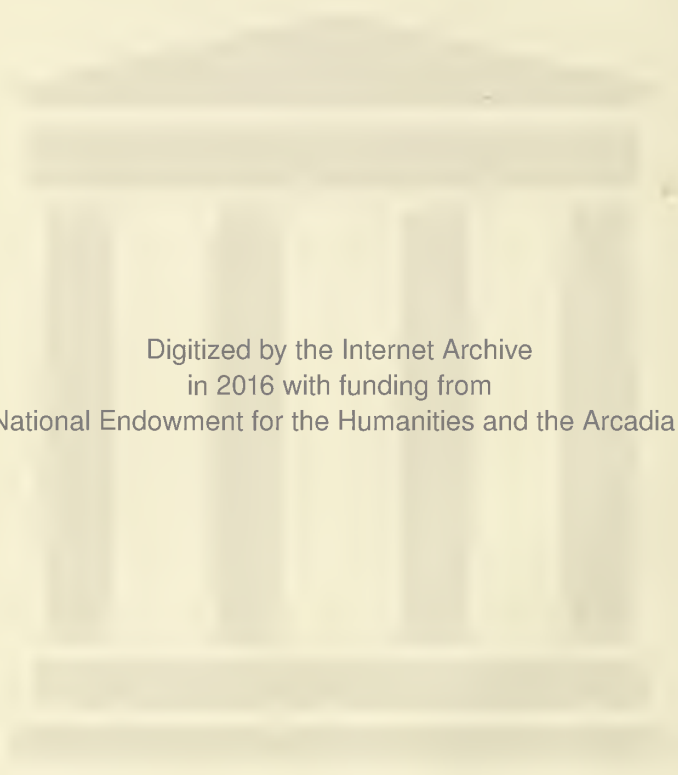


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JULY, 1922

TO

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(No paper published or to be published in any other medical journal will be accepted for this department. All papers must be in the hands of the Editors on the tenth day of the month preceding that in which they are expected to appear. Reprints may be had at reasonable rates if a WRITTEN order for the same accompany the paper.)

THE PRICE OF NEGLECT IN ACUTE PURULENT OTITIS MEDIA.*

By E. R. GANDY, M.D., Alexandria, La., April 10, 1922.

I do not propose in this discussion to tax your patience at length, and I shall proceed in a way, and after a fashion, that promises most interest to the general practitioner. For in a meeting of this kind the practicing physicians may be expected to outnumber the practicing otologists considerably. Therefore, in this discussion there shall be little reference to the bacteriology, as well as to the minute pathology, which initiates the onset, and attends the progress of *acute suppurative otitis media*.

Briefly reviewing the anatomy, we recall that the membrana tympani forms the anterior boundary of the middle ear chamber, within which we have the ossicles, the malleus, incus and stapes; the latter connecting the labyrinth through the fenestra ovalis. The upper portion of the tympanic cavity, known as the epi-tympanic recess, is especially favorable for the development of suppurative inflammation. Enclosed within this little dome

*Read before the Louisiana State Medical Society meeting, April 11 to 13, 1922.

are the bodies of the two larger ossicles, the malleus and incus, and the ligamentous bands which hold these in position. Frequently this network of tissue is so developed as to divide the tympanum into two distinct parts. Opening into the upper part of the tympanum—posteriorly—are the aditus, the mastoid antrum, and the mastoid cells. In the anterior wall of the lower or main portion, at about its center or a little below, is the orifice or the Eustachian tube, and on the median line are the two fenestra of the labyrinth, the fenestra rotunda and the fenestra ovalis. Two important nerves are liable to be involved in an inflammatory process in the middle ear, the facial and the corda tympani. Involvement of the latter in an inflammatory process would not be serious, usually, while inflammation, however slight, of the facial nerve, due to ear trouble, might lead to grave consequences. Just back of the middle ear chamber are the mastoid cells and adjacent thereto is the lateral sinus.

Acute purulent otitis media is a condition not only painful—distressingly so—but a condition fraught with many evil consequences—and particularly so when the proper treatment is neglected. Pus in the middle ear chamber, like pus in any other part of the human body, must find an avenue of escape. The longer such an infection is retained the greater the quantity of the exudate, and when this normal cavity is filled the drum membrane bulges forward from pressure. If the drum is not opened, or ruptures spontaneously, this pus will be forced back through the aditus into the mastoid, and there retained, producing a necrosis of the mastoid cells with a resultant Mastoiditis. In many cases of *acute suppurative otitis media* the membrana tympani is thin and in response to nature's effort, ruptures sufficiently to permit proper drainage, with the elimination of the infection.

On the other hand, such a favorable termination is so uncertain and the evil consequences, in the event this does not occur, are so well known that it is urgent, upon our part, to pursue the very definite course long accepted, and do an early Myringotomy, thoroughly incising the drum so as to permit free and adequate drainage. In very nearly all cases this procedure gives early relief to the patient from the distressing pain. If the canal is then kept clean and the drum clean and open, resolution

may be expected. Notwithstanding an early subsidence of the temperature, and abatement of the pain following the opening of the drum, these cases should be kept under observation until the infection is relieved, and all discharge has stopped, for if this course is not followed, the drum opening may become prematurely closed through nature's effort at repair, or through occlusion with debris from the suppurating cavity we have sought to relieve.

We must not temporize in these cases. If in doubt, we must not delude ourselves into the belief that we may be dealing with an *acute catarrhal otitis media* and temporize with local measures. For if we do, and we are dealing with an *acute suppurative otitis media* instead, we incur the risk of paying the price of neglect. The differentiation between *acute catarrhal* and *acute suppurative* inflammation of the middle ear is not always easy in the early stages of these conditions. History will help. Any septic condition points toward the purulent type. Temperature is less irregular in the purulent type of *otitis*, and in the *catarrhal* type does not run high except in children.

In the *catarrhal* type there is a less thickened appearance of the drum. In both conditions we have a reddened drum membrane, and in each the drum bulges. In all border line diagnosis, or when in doubt, play safe and do a Myringotomy, for it is a matter of "all to gain and nothing to lose," on the one hand, and "all to lose and nothing to gain," on the other. Of course, it is understood that in any case the Myringotomy is done with hands and instruments surgically clean.

Acute purulent otitis media is always of bacterial origin. Staphylococcus, streptococcus, pneumococcus, influenza bacillus and mixed infections are the given causes. Nasal obstructions around the orifice of the Eustachian tube, such as adenoids, sudden chilling, nephritis, diabetes, etc., may contribute, but bacteria are necessary. The disease may result directly from bacteria associated with the examthemata, pneumonia, septic nasopharyngitis, or tonsilitis, which find their way through the Eustachian tube into the tympanic cavity and cause inflammation. Naso-pharyngeal infections are very common in influenza and it is easy to have an extension from this area up through the Eustachian tube. This is the explanation for so many cases

of *otitis media* as a "flu" complication, and the frequency of middle ear troubles during influenza epidemics makes it urgent upon our part to not only look out for these complications, but to use accepted measures to keep the naso-pharynx open and its mucosa in as antiseptic a state as possible.

In many cases of *acute purulent otitis media* the inflammatory process is unusually active, the infection apparently involving the mucosa of the middle ear chamber, the aditus, and the adjacent mastoid cells, from the beginning of a sudden onset. Unless free and adequate drainage is promptly established in this type of case an *acute mastoiditis* is the invariable result, and always in this class of cases we have a very free purulent discharge. We may expect a running ear for a few weeks at least. However, even in these severe types, rarely does there develop a *chronic suppurative* condition when an early Myringotomy is done. These cases, severe in type, rapid in development and extension, usually are found in patients rather pronouncedly sub-normal from recent or past illness. In every case the Internist is next in importance to the Otologist, for the patient must have every aid possible to re-establish normal resistance.

From the discussion thus far the symptoms we may expect are mentally pictured rather definitely. We have pain referred to the affected ear, more or less intense in type and persistent in character; deafness; tinnitus; red and bulging drum membrane, which is often thickened, but, on the other hand, may be thinned by pressure from behind, and sometimes yellow from pus beyond; also a general reaction evidenced by an elevation of temperature. After rupture of drum—spontaneous or surgically—we have a purulent discharge, variable in quantity and lasting from a few days to indefinitely. With established drainage there is a subsidence of pain, and as the case continues and discharge lessens, there is a closure of the perforation resulting in a gradual return of hearing.

Now, what are some of the complications that attract our attention in *acute suppurative otitis media*? What is the *price of neglect* where these cases fail to receive prompt and appropriate attention?

In answer to these questions we have need only to review the anatomical relationship of important structures contiguous to the tympanic cavity.

The Middle Ear is a small chamber lined with mucous membrane and situated in the petrous portion of the temporal bone. The Attic is the highest portion of the tympanic cavity and connects through the aditus with mastoid antrum. Pus retained in the tympanum may readily find its way into the antrum and there set up a mastoiditis. The Lateral Sinus is in direct relation with the mastoid antrum and cells, and from an infection in this area, with an extension, we get Sinus Thrombosis with its disastrous consequences.

The roof of the tympanum consists of a thin plate of bone separating the middle ear chamber from the cranial cavity. Retained pus in the tympanum may cause necrosis of this thin plate of bone or an extension of the inflammatory process through it leading to meningitis, extradural abscess, abscess of the temporo-sphenoidal lobe, and cerebella abscess. The floor of the tympanum is formed by a thin bony plate and contiguous to this, below, is the jugular fossa. With destructive changes due to retained pus in the tympanum, this partition may become broken down with resultant fatal hemorrhage, or septic thrombosis of the internal jugular vein, or embolism and metastatic abscess. These are the serious complications we only too often meet in *acute suppurative otitis media* where the patient has been negligent in consulting a physician, or, on the other hand, we have been inappreciative of our responsibility in the case, failing to make a careful analysis of the case and applying appropriate treatment. I would not have you believe these serious complications or middle ear infections to be of every day frequency, but I insist that the cases are frequent enough, and most of them so easily preventable as to make the matter of serious concern to the Otologist. We are not so much concerned about the 999 that get well as we are about the one who dies and never should have been very sick.

Dench found that out of 64,858 cases of aural diseases treated at the New York Eye & Ear Infirmary there were 216 cases of sinus intracranial complications, or one in every 296 cases. Of these there were 20 cases of cerebral abscess, 7 of cerebella

abscess, 119 epidural abscess, and 46 cases of sinus-thrombosis. The same writer shows that out of about 19,000 cases of acute and chronic *otitis media purulenta*, taking these as a basis of his calculations, intracranial complications occurred in one out of every 88.

Phillips gives statistics from the records of the Manhattan Eye & Ear Hospital showing that out of about 7,000 cases of *purulent otitis media*—both acute and chronic—there was one serious complication out of every 65. These statistics are sufficiently conclusive evidence to emphasize the importance of our responsibility in dealing with this class of cases, and any one who has witnessed the dire results of what apparently started as a simple earache cannot but be impressed with the importance of the subject. It is evident that proper care and thorough measures are imperative in every case.

A careful study of the mass of literature on aural diseases convinces one that by far the most of the fatalities arise from those of purulent origin, and a careful digest of the subject of *purulent otitis media*—whether acute or chronic—leads to the following conclusions:

(1) The consensus of opinion seems to be that many practitioners are too hasty in dismissing cases of *otitis media* which on the surface seem trivial or apparently yield quickly to superficial treatment.

(2) A careful examination should be made of the ear in every case of inflammatory condition of that important organ, and prompt and appropriate measures inaugurated for relief. These should be followed up until resolution is complete.

(3) The apparent harmlessness of the milder suppurative form which we often meet should not be accepted as such. It is not so much the affection as the sequellæ, the complications, such as: osseous necrosis, involvement of the sinuses, the labyrinth and the meninges.

(4) Children, especially, should be watched when they present evidence of middle ear disturbance. If they have adenoids, they should be removed. If their tonsils are obstructive or infected, they should also be removed. The naso-pharynx should

be put in the best possible condition, for most of our middle ear infections have their origin in this area, the infections extending up through the Eustachian tube. Also, of course, the child should have the best hygienic care.

Dr. J. T. Crebbin (New Orleans): It is recognized that an acute suppurative otitis media is always a secondary infection; it is never primary. We may have an infection following grippe or it may be due to hypertrophy of the tonsils, etc. In this event we should first remove the tonsils and adenoids. These should be removed, except where the child is under three years of age.

The cause of acute suppurative otitis media should be treated first and then results will follow. The Doctor has mentioned fever. Fever is a characteristic sign in the acute attack. After the second or third day it is not a reliable sign at all, but they will invariably have pain. In a condition of this kind, where you have running ears, it always means mastoid infection. It is impossible to have one without the other, and this type of case is to be recognized as a serious condition and treated accordingly.

The complications of acute suppurative otitis media:—meningitis, lateral sinus thrombosis and facial paralysis, etc—show us that this condition should receive most careful attention.

Dr. Homer Du Puy (New Orleans): The essayist suggests very correctly that a large percentage of acute suppurative otitis media is to be found in children. I wish to direct my remarks to a type which might fool the general practitioner and therefore I address myself to the consideration of the penalty paid by individuals who are the subject of obscure otitis media. I at once disagree with Dr. Crebbin, who makes the point that otitis media is always attended by pain. I disagree with that absolutely. There is a type in infancy in which the pain is so slight as to escape attention. The infant is in a bad humor, cries, but gives very little manifestation of pain. He has an otorrhoea therefore, and the pain being slight in character, is not a very important point on which to base your judgment. It is this type that pays the highest penalty for neglect. The price paid is, first, by life—meningitis, mastoiditis, septicemia, and so forth. The second is the ruptured drum—a large perforation which is uncloseable. It also means recurrent troubles in the middle ear forever—men may come and men may go, but that ear will flow forever. Third, if the drum has not perforated, then you have in the middle ear a fibrous exudate, a serous discharge which remains in the middle ear and which brings about ankylosis of the little ossicles and you have then a probable case of future permanent deafness. That may come at twelve or sixteen or twenty, but the penalty was paid in the first year of life. I wish to call your attention to this group in which there is no pain as a cardinal symptom, but where you will find septic temperature.

I wish to congratulate Dr. Gandy on the presentation of his paper, and especially emphasizing the fact that neglect of the middle ear is placed primarily upon the shoulders of the general man, and if I have helped him to solve some of his complex problems by pointing out that we can have very serious trouble without perforation of the drum and without pain, I have done something.

Dr. Fayette C. Ewing (Alexandria): I want to agree with what Dr. Du Puy said and disagree with Dr. Crebbin in reference to pain. You can have discharge with almost no pain preceding, and this is generally due to the influenza bacillus. You see cases where people have evidence of destruction of the drum and they have no history

of pain. It is common to see children with a discharging ear without pain and that is why the mothers do not notice it and do not bring the children to the attention of the physician.

No harm can be done by a myringotomy, but do a free one. There will be fewer mastoid operations if you have a free myringotomy; give a free purgation and then put on a Sprague mastoid bag with ice therein and keep it there. I have seen patients prepared for operation with classical symptoms of mastoiditis, and I persuaded them to do a free myringotomy and put a Sprague bag on, and they did not have an operation and got well. In this connection I lay great stress on the postural position, affected ear drum, so it will drain, inflation through a Eustatian catheter to promote drainage, exquisite cleanliness of the auditory canals, and antiseptic, astringent ear drops.

Dr. C. A. Weiss (Baton Rouge): Dr. Gandy has mentioned the complications that may follow middle ear suppuration. We do have pain in middle ear suppuration, particularly in acute cases. The cases without pain are in the minority, and have had some pain, be it ever so slight, at some time of the disease. The so-called painless cases are always more dangerous because the aurists' attention is sought too late. In the painful cases the mother will bring the child for immediate relief. Whereas in the painless cases the ears may have been running for weeks without attention, and the necrotic process advanced too far to be benefited by palliative or curative measures. The blame for neglect in otitis media must rest with the laymen, for every modern aurist knows too well the dire results following even the most benign cases of otitis media. In a recent case of mine, I was consulted about an infant's ear only after that infant had developed erysipelas, though the ear had been running for several days. It would be most fortunate for the patient and the aurist if all cases of otitis media suffered pain.

Dr. M. P. Boebinger (New Orleans): I discussed a case yesterday with Dr. Lynch that I think was very unusual. The case had a long history of suppurative otitis media, no temperature, leucocyte count 9500, X-ray negative. The history was a case of influenza. The hearing was fairly good and the drum looked well. However, I decided I would take one important symptom, and that was pain on pressure over the mastoid and antrum. I ordered the patient prepared for mastoidectomy and to my surprise, after I passed through the cortex, I found a complete bony destruction. The rest of the work was done by means of curettage. I simply throw this out as food for thought. This, I believe, was a most unusual case.

Dr. E. R. Gandy (closing): If I were called upon to express in one word the most important point in my paper, it would be prophylaxis, by which is meant the adoption of those measures I have just set forth which have been found to be of value in the prevention of acute otitis media.

HYSTERECTOMY—INDICATIONS FOR AND SELECTION OF TYPE OF OPERATION.*

By DR. W. D. PHILLIPS, of the Graduate School of Medicine, Tulane University of Louisiana.

The abdominal surgeon is often confronted with the problem "when to do a hysterectomy," and if so, what type of operation should be done. Experience has taught us that there are definite

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indications which may be closely adhered to, and it is the purpose of this paper to refer to these. Certainly the indications are not as numerous now as formerly. With the advent of radium, the indications in about 40% of the cases were eliminated. Among the more common indications may be mentioned the following:

GROUP 1. Tumors of the uterus, (a) malignant; (b) non-malignant.

GROUP 2. Chronic inflammatory pelvic diseases, principally Neisserian infection.

GROUP 3. Chronic metritis—hyperplastic or glandular endometritis.

GROUP 4. Complete prolapse of uterus.

Among the types of operation may be mentioned:

1. Supravaginal amputation of uterus—subtotal or incomplete hysterectomy.
2. Complete or total hysterectomy.
 - (a) Abdominal route.
 - (b) Vaginal route.
3. Radical operation for cancer.

Concerning the indications, the age and condition of the patient, with the pathology of the individual case, are the important factors to be considered. As to the type of operation, the supravaginal amputation of the uterus, or incomplete hysterectomy, is easier to perform and carries with it a lower primary mortality. But the question of morbidity is to be considered as well, and we should ask ourselves the question, "Will the operation as performed, or treatment advised, cure the patient and relieve her of the symptoms from which she is suffering and prevent a recurrence of the old symptoms, or an occurrence of a new group of symptoms?" In order to discuss this subject briefly, I will refer to the various groups, as mentioned under indications, and the treatment to be selected in each type of case.

In the First Group—Tumors of the Uterus.

(a) Malignant. If malignant, the location and extent of invasion will assist materially in arriving at final conclusions. An early malignant growth of the fundus of uterus or cervix, and in the latter when the nodule is limited to the cervix without any evidence of extension to the vaginal walls or adjacent structures, should be treated by the radical operation for cancer, which would certainly be the choice operation and an absolute indication. But, on the other hand, if the disease has spread to the vaginal walls with a possible invasion in and around the broad and sacro-uterine ligaments, the radical operation, if performed, would not only fail to produce results, but, in most instances, would result in harm. The repeated application of radium, associated with deep X-Ray treatments is indicated and recent reports and statistics will show that the palliative results, such as controlling hemorrhage, etc., are very good and in some instances effecting apparently a cure, or converting what appeared to be an in-operable case to an operable one.

(b) Non-malignant. The age of the patient, location and duration of tumor and condition of cervix, are the deciding factors. We are well aware of the fact that all myomata are, as a rule, interstitial and later tend to travel either in the direction of the serous membrane covering the uterus, or the mucous membrane lining the uterus, and become sub-serous or sub-mucous. In the sub-mucous type in a young woman, a removal of the tumor through the cervix, followed by a thorough curettage, is as a rule all the treatment necessary. In the sub-serous, or interstitial type, in a young woman with either a single or multiple myomata, a myomectomy is the choice operation. Consequently, in this class, hysterectomy is not indicated.

In older patients, however—that is, in cases nearing the menopause, say, 40 to 45 years of age—the size of the tumor, duration of its existence, and condition of the cervix, are the determining factors. In most cases in this group, providing the tumor is not larger than a 3 months pregnant uterus, radium should be used instead of any form of operative treatment. On the other hand, in large myomas, except in cases where operation is contraindicated, as in elderly women, with constitutional conditions such as nephritis, cardiac diseases, etc., hysterectomy is indi-

ated. The type of hysterectomy selected for the individual case, the duration of the existence of the growth and the condition of the cervix determine this. The fear of sarcomatous changes taking place in the myoma and the possibility of a co-existing carcinoma in the endometrium, or of the future occurrence of carcinoma in the cervical stump, although not as common as some seem to think are, nevertheless, facts well worth considering. A careful history of the case and thorough examination of the cervix will assist in the final decision as to the type of operation which should be done.

Dr. Clark, of Philadelphia, in an article which appeared in the "Annals of Surgery," June, 1920, brings out a rather strong point in this connection, emphasizing the importance of history-taking as an aid in differential diagnosis between benignancy on the one hand, and malignancy on the other. He says: "A myomatous tumor is a constructive growth, merely building up in a disorderly fashion the normal muscular and fibrous tissues of the uterus. Consequently, so far as uterine bleeding is concerned—and this is the chief symptom upon which we rest our diagnosis of benignancy—it follows the normal physiologic law of periodicity. Therefore, when the normal menstrual flow is converted into a menorrhagia, even though stretched over several days with clean cut inter-menstrual intervals of no bleeding or discharge, the clinical assumption in favor of benignancy is almost positive. On the other hand, cancer of the cervix or fundus is not of a constructive type of growth, and in creating its hemorrhagic symptoms, deviates at once from the law of periodicity and begins to cause inter-menstrual spotting with only the ebb and flood tide of the menstrual waves increasing and decreasing its output."

Almost with unerring precision, therefore, one may rule out cancer of the fundus, except in the earliest possible case, through this interpretation of menstrual symptomatology. Menorrhagia is the hall mark of a myoma, regardless of its excess, whereas the tiny spot of intermenstrual blood is always a danger signal of cancer never to be considered carelessly.

Concerning the selection of type of operation, supravaginal amputation of the uterus, or incomplete hysterectomy, is a much easier operation to perform. It carries with it a lower mortality

and morbidity rate as well. Also, the pelvic diaphragm is much better sustained in the incomplete hysterectomy, and whenever possible it should be the choice operation. But the dangers as mentioned above, are well worthy of consideration. A large myoma of long standing in an elderly woman which has shown a tendency to grow rapidly, should, I believe, be treated by complete hysterectomy. This has been very forcibly impressed upon me by a patient upon whom I did an incomplete hysterectomy three years ago. To all appearances I was dealing with an ordinary myoma, with an apparently normal cervix. I did what appeared to be best, an incomplete hysterectomy. There was no rush section diagnosis made, and in three or four days the Laboratory report came back, "Sarcoma."

The patient refused further operative treatment, and in less time than a year there was a recurrence of the growth on the cervical stump larger than the original tumor. I believe in this case that if a complete hysterectomy had been done, this patient would be alive today, and in this particular type of case, a complete hysterectomy should be done, or every growth of this kind should be subjected to a rush section examination before resorting to incomplete hysterectomy.

There is another type of case in which complete hysterectomy is indicated—large myomas in elderly women, at or near the menopause, where the cervix is apparently diseased, as indicated by infiltration, laceration and marked secretion. The cervix, if left in this type of case, may sooner or later be a source of annoyance, either from the standpoint of causing marked leucorrhea, or the seat of cancerous growth. In this type of case, complete hysterectomy is indicated.

*Group 2. Indications: Chronic Inflammatory Pelvic Disease,
Principally Neisserian Infection.*

In this group the indications for hysterectomy are limited and the judgment of the surgeon is often taxed to the utmost, as the conditions found at the time of operation must invariably determine the procedure. The pendulum in the last twenty (20) years has been swinging between radical treatment on the one hand, to conservative treatment on the other. Frequently the tubes alone are removed and the patient continues to suffer pains

in the lower abdomen, uterine hemorrhage and muco-purulent discharge. Again, in other instances, the ovaries are so badly diseased as to require removal—the remaining uterus will be of little service and most often cause trouble. I have always felt, in this type of case, that marked conservatism was the best plan to follow, and, for that reason, defer any operative treatment as long as possible in a young subject. When finally it is determined that operative treatment is necessary, conservatism again should be our watchword. Should it be necessary to remove both ovaries and the condition of the uterus will permit, ovarian transplantation is most practical and should invariably be used. By this means the menstrual function will be preserved, and, even though the annoying leucorrheal symptoms persist, it is better than the nervous manifestation which occurs in artificial menopause.

In extensive cases, where the uterus is well denuded of the serous coat, or in older women (that is, those nearing the menopause), hysterectomy will promise the best results. The type of hysterectomy should be determined by the individual case, the complete hysterectomy, as a rule, giving the best results, as drainage, which is most often necessary in this type of case, can very easily be maintained through the vaginal vault. And again, if the cervix is left, it is often a source of annoyance because of persistent leucorrheal discharge.

Group 3. Indications: Chronic Metritis, Hyperplastic of Glandular Endometritis.

Although I have listed this group in the indications for hysterectomy, I have done so only for the purpose of discussion, as, with the advent of radium, the indication for hysterectomy in this type of case was removed. We all remember the annoying symptoms of menorrhagia and metrorrhagia as presented by these cases. They were formerly subjected, as a rule, to one, two or even three curettages with only temporary relief and finally in desperation, as our only means of relieving the uterine hemorrhage, hysterectomy was done. But today, the story is different. An application of radium is given and the symptoms relieved with the added advantage of shortening materially the patient's stay at the hospital and removing the dangers attending all abdominal operations. The dosage, of course, is governed by the

age of the patient, and I wish to emphasize the importance of preliminary curettage in these cases, which should always be done, as it serves two important purposes: (1) As a rule it removes a large amount of glandular polypoid material, and (2), for diagnostic purposes. My experience with radium has been mostly in this group of cases, and the results were most gratifying.

Group 4. Indications: Prolapse of Uterus.

In this group we have, in the majority of cases, an absolute indication for hysterectomy, as the greatest percentage of these cases are in elderly women. Of course, if a prolapse of the uterus is found in a young woman, restoration should be attempted by means of the necessary plastic work, to be followed by a suspension of the uterus, and, if necessary, shortening of the sacro-uterine ligaments.

In a patient past or nearing the menopause, and particularly if the cervix is diseased, a vaginal hysterectomy will, in the majority of cases, give the best results. The interposition operation, or vaginal fixation of the uterus, is sometimes advised, but in my own experience I have observed some recurrences or have seen that the patient suffers pain following this procedure. I personally much prefer vaginal hysterectomy in this condition, providing, of course, the conditions justify it.

As to the type of operation for any form of hysterectomy, the supra-vaginal amputation of the uterus, or incomplete hysterectomy, is the easiest to perform, and there is very little to be said about it. The various steps in the technique have been so carefully worked out as to leave almost nothing to be wished for, and consequently have reduced the mortality to an almost negative percentage. In the complete hysterectomy, however, the story is different, and there are several points to be discussed. The dangers of hemorrhage, infection, ureteral and bladder injuries have been very much diminished by improvement in technique. So much so, that the mortality in this operation has dropped down to the low level of 2 per cent or less. Infection has always been the one dreaded complication of complete hysterectomy, because of the exposure necessary with the opening of the vaginal vault. I recall several of my earlier

complete hysterectomies which I lost because of this complication. A thorough attempt at sterilization of the walls of the vagina and cervix by means of a preliminary application of iodine just before operation and the immediate packing of iodoform gauze into the vault of the vagina after incision in the vaginal wall to expose the cervix, will, I am sure, serve to assist in preventing a fair percentage of infections. Hemorrhage and injuries to the ureter and bladder have diminished because of careful dissection, remaining close to the sides of the uterus, and the systematic ligation of the various vessels. Because of all of these facts, complete hysterectomy, although hard, does not carry with it the fear of former years.

The technique in vaginal hysterectomy has also improved very much in recent years, and one of the most annoying of all complications which was formerly met with—that is, prolapse of the vaginal wall or shortening of the vagina after operation—has been much diminished by securely suturing the stumps of ligaments under the bladder and also attaching the stumps to the vaginal walls, and also careful attention being paid to the closure of the anterior and posterior walls of the vagina, as would be indicated in any plastic operation for relaxed vaginal outlet.

Conclusions.

(1) Radium has removed the indications for hysterectomy in approximately 40% of cases.

(2) Myomectomy should always be the choice procedure in myomas of the uterus in young individuals.

(3) Supra-vaginal amputation of the uterus, or incomplete hysterectomy, should be the type of operation selected in the average case, providing, of course, that the conditions justify it.

(4) Complete hysterectomy should be done in cases of myomas of long standing which have shown a tendency to grow rapidly and in cases in which the cervix is diseased.

(5) Vaginal hysterectomy is the choice procedure in cases of complete prolapse of the uterus in elderly individuals.

Dr. Hilliard E. Miller: I have listened to Dr. Phillips' paper with a great deal of interest, and wish to commend his attitude of con-

servatism in the treatment of certain pathological conditions of the uterus. I feel quite certain that his estimate of 40% less hysterectomies since the advent of radium is a very conservative one.

During the past seven years, in the private work of Dr. C. Jeff Miller and myself, I do not think we have done more than twenty hysterectomies for fibroids. In these twenty cases the growths were of the large pedunculated variety, or of the intra-mural type; the latter were of a size which produced pressure symptoms, or were co-existent with a pelvic inflammatory condition. The cases, in which we have used radium, comprise a series of one hundred and ninety-two, where the fibroids did not exceed three inches in diameter. Only four cases in this series required more than a 50 millogram application for twenty-four hours, to check all symptoms permanently, and cause a partial or complete shrinkage of the growth.

A chronic condition of the cervix should be cleared up, and if necessary an amputation done, previous to radiation, to eliminate the leucorrhœal discharge from that source. All cases giving a history of irregular bleeding, and those in which the clinical picture makes one suspicious of malignant degeneration, should be curetted, and a microscopical examination made of the scrapings, before radium is applied, as complete hysterectomy, in malignant disease of the body of the uterus, still offers a 70% cure.

Dr. T. B. Sellers (New Orleans): This is a subject that confronts every surgeon at least weekly, as to whether he shall do a supra-vaginal or a complete hysterectomy. Personally I am glad to know that the Doctor is a strong advocate of the supra-vaginal hysterectomy. In our experience in the Charity Hospital, as well as private work, we have never had a case of carcinoma develop from a normal-looking cervix. I know occasionally it does happen, but considering the mortality in comparing the two operations, I feel the supra-vaginal operation is preferable, provided the cervix is normal looking.

Dr. Peter B. Salatich: I am a strong advocate of removing the cervix, but the whole thing depends upon the state of the cervix. If it is full of cysts it should be removed.

Another point is that when you do a total hysterectomy you want to be sure to put a small drain into the vagina. If you do not you will have a back-fire. Put in a small cigarette or gauze drain and in a large majority of cases they will heal by primary intention and you do not have a great big granulated mass that takes a long while to heal.

Dr. W. D. Phillips (closing): In these classic types of endometritis I believe preliminary curettage is most important. That has been proven in so many cases. You will not get results from radium unless you have a preliminary curettage.

My excuse for bringing this paper here is that there has been a tendency for doing a complete hysterectomy, and in suitable cases I think it is the ideal operation, but where a supra-vaginal hysterectomy can be done, it should be done. I wrote to two or three clinicians on this subject and the consensus of opinion seemed to be that in the average case, with the average man trained to do a complete hysterectomy, the mortality will not be very high. But in the case of the man who does an occasional hysterectomy, the mortality will be high and the supra-vaginal operation is the best. I have had practically the same opinion from various other men.

SUGGESTIONS IN THE TREATMENT OF CERTAIN DISEASES OF THE SKIN.*

By J. M. KING, B.S., M.D., Professor of Dermatology, Vanderbilt University,
Nashville, Tennessee.

The selection of a subject for this discussion was rather difficult. There are so many interesting topics to us at present, syphilis, cancer, radium, X-ray, but they have been worked out quite well in recent literature. The understanding required of the dermatologist of the pure sciences—biology, physics and chemistry—and the relationship of internal medicine to dermatology would make a full paper. Finally it was decided that I could do no better than to present some practical lessons learned from observation and experience during twenty-six years of practice and teaching.

Dermatology properly estimated covers a very wide field of study and work. No subject requires keener powers of observation and differentiation and none demands closer attention in the selection of both internal and external remedies. A thorough preparation and a long training are necessary to make a well-rounded dermatologist. The ideal course for one would be a liberal training in the arts and sciences, followed by the didactic and clinical courses in medicine and surgery, then the pursuit of the special line under a master of special pathology along with the best clinical advantages of the world. Master of the field he has come into his own and if he has the heart of the physician, he will enjoy his life work to the fullest extent. Hutchison, Crocker, Colcott, Fox, Duhring, White and Robinson were dermatologists of this type.

There are many unsettled problems in dermatology that daily come to our attention and with which we must contend and the solution of which must depend entirely upon our conception of the questions. The mystery of syphilis has disappeared, but it still clings to eczema, lichen planus, pellagra and many other diseases. Although we have a clearer understanding of some of these problems today than we had years ago, yet there are some that are still as mysterious as ever and eczema seems to be one of them. It has been a bone of contention and a stumbling block ever since the days of Hebra and Kaposi and the French

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School, and at the present time there is an effort on the part of some writers to pronounce it only a dermatitis. The question concerning eczema is this: shall we regard eczema as an entity, separate and distinct in its classification like psoriasis, cancer and others and due to internal influence, or shall we consider it a simple dermatitis caused by external irritation? This is one of the suggestions I would like to discuss. I believe that the condition which should be diagnosed eczema is as much a distinct condition as lichen planus and psoriasis, and I believe that all three come from disturbed physiological functions. The lesions of lichen planus in all cases must be produced by the same process since they are so characteristic, and so it is with psoriasis. There is no analogy between lichen planus, psoriasis and dermatitis while there is one between eczema and dermatitis since the special local pathology of the two is practically the same. But is the general pathology and the disturbed functions the same in the two conditions? Is the internal condition the same in eczema as it is in dermatitis produced by novocain, the primrose, sugar, or any other external irritant that produces a dermatitis? My assistant had a dermatitis from apothesine, but could use novocain with impunity. Here is an idiosyncrasy such as is met with in atropine and quinine, not a disturbed system. Does the laundress who at one time uses a certain kind of soap and has an inflammation of the hands and who at another time uses a different soap and does not have the inflammation—does she have eczema or dermatitis? Dermatitis to be sure.

I am sure that eczema may manifest itself without any discernable external irritation, and if this be so it necessarily follows that there must exist some pathology or faulty functions within the system by which irritating substances are produced, sufficient in quantity and irritating properties to cause an inflammation in the skin. The compounds that are most likely to undergo these faulty changes in metabolism and katabolism are the proteins. I do not think the fats and carbohydrates or their end-products enter into the formation of any of the deleterious substances and the only evil part they could play in the whole course of metabolism would be due to the over burden thrown upon the liver by an excessive ingestion of these compounds. "The present day understanding of protein metabolism is to the effect that the protein molecule is broken down into its ultimate building

stones, the amino acids by the digestive enzymes of the gastrointestinal tract. These amino acids are absorbed into the blood, by which they are carried to the various organs and tissues which sift out the amino acids and use those of them which they require for reconstruction of the broken down protein. The amino acids not required for this process, along with those which may be liberated in the tissues themselves by disintegration of tissue protein, are then split into two portions, one represented by ammonia and the other by the remainder of the amino acid molecule. The former is excreted as urea and the latter is oxidized to produce energy." (McCloud, page 633.)

If existence is in accord with this perfect physiological functioning as stated above there would be nothing to provoke eczema, but life is full of trial and tribulation and the equilibrium of the system is easily broken by nerve strain, fear, anxiety, anger, over eating and faulty elimination. An editor of a weekly paper develops an eczema just before his paper goes to press. One concerned about the salvation of his soul breaks out with eczema. A woman in a family quarrel manifests the results in eczema. A life insurance agent works on a big risk and receives his premium in eczema. A big eater of sweets and meats often reaps the fruits in eczema. Fear checks the flow of saliva, why should it not check the secretion of other cells of the body? Neuroses disturb the flow of gastric fluids, why could they not disturb the flow of other enzymes which are essential to the formation of normal end-products of protein metabolism? "A meat diet produces phosphoric acid from the nucleins, phosphoproteins, and phospholipins, sulphuric acid from the sulphur of the proteins, uric acid from the nuclear purines and perhaps other acid products and thus produces a higher acid condition of the system than a vegetarian diet." As the acid content of the blood increases beyond the normal, metabolism is more extensively deranged, oxidation is lessened and the diminished amount of carbon dioxide that is made is absorbed less freely by the blood stream, the elimination of waste is curtailed, and there arises a high tide of toxic products in the blood and lymph in the system. Then the final question presents itself, why could not the skin of an individual possess an idiosyncrasy for some of these endogenous products or an excess of them which would result in the development of an eczema just as it might have an

idiosyncrasy for exogenous substances such as atropine, egg albumin or quinine, or furthermore to the external irritants, such as the primrose and the novocain? Physiological chemistry does not reveal what these noxious products are but observation, physiological and clinical, leads us to believe that they do exist. A like systematic condition exists in one form of arthritis, synovitis, lumbago and gout. Focal infection will not account for all of it. This cannot be the ultimate expression upon this phase of the subject but I have presented it in this way in order that all of us may study with greater care every case that comes under observation with the view of distinguishing more clearly the difference between eczema and dermatitis, and with the view of establishing the fact that eczema still exists and that dermatitis is not the same thing as eczema.

With this conception of eczema allow me to lay stress upon a few points pertaining to both internal and external treatment bearing in mind the general course directed by the highest authorities upon this subject. Let us illustrate the points by assuming that we are to treat a case of acute, swollen, vesicular eczema of the arms in a man thirty-five years of age. After the history is taken and physical examination is made the one test that will give the most definite information concerning his internal condition is that of the urine. The expectation would be to find it excessively acid and rather high in color. The examination and study of the urine in dermatology as a whole is not sufficiently emphasized. If the urine is acid as it is in the great majority of cases the high acid state of the urine and its high color both indicate that the blood stream from which the urine is drawn is charged with an excess of acid forming compounds and side by side with them is found an excess of the normally formed end-products of protein metabolism and probably some abnormal end-products of metabolism. The supreme move therefore in the treatment if we are rational in our conception of the condition would be to re-establish a normal physiological state which may be done by neutralizing the acid compounds, increasing the elimination of the waste products, and stopping the ingestion of foods out of which both acids and deleterious products may be formed; but the most important move is that of alkalization. Administer sodium and potassium salts in water till the urine is neutral or alkaline. The other two propositions

are self evident as to their solution—purgation and diet. The proof of the pudding is the eating of it. I have observed that many, many cases show immediate improvement upon the institution of this procedure, where before it had been neglected. If this doctrine is well worked out and applied, I do not think there is any place for any form of internal specific medication in eczema but in every case we should exercise our knowledge of general medicine. The next suggestion I would like to discuss is the method of use in some of the local applications of eczema.

Cleansing Lotion: Various cleansing lotions have been in use for many years, olive oil, almond oil, starch poultice, etc., but the one that has served me best is a mixture of phenol, black wash, and olive oil, equal parts each of the latter two for small areas, and phenol, lime water and olive oil for larger areas and the entire body. It is a soap of the mildest form and cleanses as well as soap and water without irritating results. It should be used freely with a pledget of cotton.

Nitrate of Silver Solution: It has been my practice for several years to use nitrate of silver solution freely on the raw weeping areas and cracks of eczema, without any noticeable bad effect. It serves two purposes: First, it renders the surface cleaner by its antiseptic effect, and second, it hardens and drives the epithelial cells by the cauterizing effect of the freshly formed nitric acid and thereby promotes the process of keratinization. Repeat the application, rubbing it on well as long as there is marked parakeratosis, and follow each application with the selected dressing.

Lotions: Numerous lotions are recommended for acute eczema, but very few are of any value. We are directed to dab them on the surface frequently. The real therapeutic effect of a lotion dabbed on the bare surface is ephemeral and is of so short a duration as to make it almost worthless except to relieve itching. The greatest therapeutic value of the lotion is its cooling effect dependent on the well known principle of evaporation. The boiling process of water is a cooling process. In order to get the greatest effect on the surface from evaporation the lotion must be constantly sprayed on the surface or it must be put in gauze loosely and flocculently applied and kept constantly wet with the selected lotion, or the gauze may be made wet with

the selected lotion and kept wet with a solution of boric acid or aluminum acetate. If we will only revert to the actually swollen, weeping arm of our assumed patient, the general and special pathology indicate a cooling process—too much blood—too much heat—too much fluid—the cells fluid soaked—itching and burning. A salve would retain the heat. A close fitting gauze would prevent radiation. What is needed is the radiating type of gauze dressing kept wet with a watery lotion. The gauze is best applied very loosely, open like a radiator, and held in place, not with a bandage which would prevent evaporation, but with a wrapping string. This plan has met my fondest expectations in many, many acute cases.

Tar: Tar is as old in the treatment of eczema as eczema itself, but let me call attention to one application that will serve you well in infantile eczema. All of us in these cases find the cheeks of the face to be the most intractable areas in treatment. Here is where tar plays a pretty part. To use it, clean the weeping surface well, there must be no pus, dry and apply well washed coal tar with a spatula then spread a thin layer of cotton over the tar and pat it into the tar making a tar mat over the surface. As a rule it sticks well, in fact the itching is so much relieved that the baby does not pull it off. Leave it on to shed itself and when this takes place you will usually find the area healed.

The Prepuce in Infantile Eczema: The benefits derived from circumcision in infantile eczema which was noted by the late Dr. Isadore Dyer several years ago has not been generally indorsed by the text book writers. But I am confident that I have observed real improvement from circumcision in these cases and always recommend that it be done. It seems that the only reasonable view to take of such a condition is that the adhesions of the prepuce to the glans penis produce sufficient reflex irritation to upset the nerve centers and secretory functions and thereby bring about enough faulty metabolism and toxemia to produce the eczema.

Lichen Planus: My observation in lichen planus inclines me to think that a majority of my cases have been of the neurotic type, in individuals with a fragile, nervous system and in those who have been under a prolonged nerve strain or a sudden shock from one thing or another which is sufficient to produce

the internal systemic pathology underlying the eruption. I feel that imposed rest along with diet and alkalinization of the system are important in handling the case. Mercury and arsenic stand at the top of the list as internal remedies; mercury in the acute cases with ascending doses and arsenic in the scaly, chronic forms in ascending doses to toleration. Hypertrophic lesions should receive the X-ray.

Psoriasis: This is the bug-bear of our practice. If cases would only remain well after treatment our fear would be less. The scalp, the hands and sometimes circumscribed lesions on the body put one to the test, and some cases refuse to yield to anything at our command. Diet is held in scorn by some in this disease but it has been my observation that a vegetable diet with alkalinization have been of great service in the successful treatment of psoriasis. As to arsenic, I scarcely use it. Locally liquor carbonis detergens in my experience has proven to be the most valuable detergent for removing the scales, full strength or diluted. It is an excellent remedy within itself as many mild cases may be entirely controlled by it. I rely largely upon three ointments, one of salicylic acid, ammoniated mercury and oil of cade for the scalp, hands and large, thick circumscribed areas on the body; one of salicylic acid and ichthyol for the disseminated type, and one of chrysarobin always in lard to be applied two or three times a week, the strength of all varying with the demand. Always confine the ointment with a dressing when possible. Apply X-ray to the thick sclerotic patches. Now and then you will meet with a case which will show a slight moisture in the lesions and will resist the ordinary treatment. In such cases I have found vaccine treatment of great help.

Acne Vulgaris: In addition to the routine plan of treatment of acne I wish to lay stress upon two things that have served me well. The first is the application of hot lotio alba fomentations to the parts at night after a hot soap bath. The X-ray is beneficial as a rule in all cases, but should be used with great care. But the papular and nodular lesions often met with on the neck and about the angle of the jaw require rather heavy doses of X-ray and I think it is the best application we have at the present.

Pellagra: A full dietary with hypodermic use of arsenic are the chief points of treatment in pellagra. Usually I begin with the arsenic of iron one grain dose followed the next day with cacodylate of soda three grains and continue two weeks alternating thus, after that time let one day intervene but continue to alternate for two weeks longer and after this let two days intervene between doses for another two weeks. I have used this plan in many cases for several years with satisfactory results.

Ivy Poisoning: Much recently has been written on ivy poisoning. In mild cases, limited in area, I have found the solution of nitrate of silver to give the best results, but in more extensive cases I have used a solution of potassium permanganate. The oxidizing principle is made use of in both. Puncture all blisters and immediately apply the liquids.

Ichthyosis: There are idiosyncrasies met with in treatment of mild ichthyosis, but the course I have followed for a number of years gives very satisfactory results. Insist upon a full diet of fats, bathe with a soap of 3% to 5% Resorein and salicylic acid, apply after the bath and while the skin is wet a lotion, made suitable for each use, of resorein, tinct. benzoin, glycerine, glycerite of starch and rose water, then dry with towel. The underwear in winter should be woolen or part wool to coax the skin to more normal function.

Erysipelas: The dermatologist must often care for a case of erysipelas. After studying many reports and observing many cases I am of the opinion that the disease is self limited, as much so as typhoid fever. Some cases run longer than others, so does typhoid fever. I feel that all we can do in treatment is to make the patient more comfortable and to lessen toxemia. Ice cold boric acid solution in packs, or the ice bag or real ice packs are to be applied to any part of the body affected, almost continuously. Ichthyol salve may be applied during rest periods. The cold gives more comfort to the patient than any other local application and at the same time keeps the temperature low. Iodine internally I believe assists in combatting toxemia and the tincture of iron internally supports the hemoglobin, which is rapidly reduced by the infection. Vaccines and serum are lauded

by the makers but I have failed to see any good results or to get any reliable reports from their users.

Pityriasis Rosea: Walker in treatment of pityriasis rosea recommends a bath into which Condy's fluid has been poured. Several years ago I directed a patient to apply this treatment. I ordered a strong solution of potassium permanganate from which to fix the bath water, but instead of putting the solution into the bath the patient thought that if a little in the bath would do good the full strength on the body would do more. He applied it full strength and I was rather surprised at the rapid recovery, for we are taught that the recovery is slow. So now I use three or four drachmas of the salt to a pint of water to be applied by sponging on after a warm soap bath every other night and a sulphur salve applied the night without the bath. Cases recover in less time by this method than we are led to expect from the texts, so I am constrained to believe there is some merit in it.

Chronic Bromide Eruption: If you have had much experience with this lesion you will resort to most any method of treatment before subjecting the neurotic to the curet and the frequent after dressings. Deliver me from such a task. So, I decided to try the X-ray to destroy the heavy papillomatous growths on the shins of an extremely nervous young woman from whom I had curetted similar lesions a few years before, and to my delight the results were perfectly successful. I have also used the therapeutic effect of the X-ray on large areas of super abundant growth of *granulation tissue* over large ulcers on old people where it was inadvisable to curet or skin graft. And in the last five years the X-ray without any other application has served me well in the treatment of several cases of *circumscribed scleroderma*.

Chronic Perforating Ulcer: The extremely thick hyperkeratosis around these ulcers is the most difficult feature to overcome and is one thing that prevents healing. The neuritis back of them must also be kept in mind. Salicylic acid is the remedy par excellence and the best preparation I have used is one made by taking the acid and mixing enough glycerine with it to make a thick paste. Apply this by pressing it into the ulcer, even into the perforated joint and confine with a dressing. Repeated

applications will enable you to remove the thick eperdermis which the lesion may heal.

Anti-Pruritis Agents: You are perfectly familiar with the long list of anti-pruritic agents and now I wish to add another. For the past four years I have used a compound known as pinozone, a product of fractional distillation of the exudate of the pine tree, with happy results. It is an oily liquid with a pungent odor and consists of many essential oils. It may be applied freely.

Flat Warts: Equal parts of resorein, precipitated sulphur and glacial acetic acid is a mixture I have used for seventeen years. Stir the mixture and apply with a tooth pick once or twice a day and let dry. Other warts are better treated by the usual means—X-ray and electrolysis.

Soft Corns: Since the texts dignify the soft corn with a discussion and treatment I feel that I may impose upon you a simple method of treatment which I have used for a number of years. If one is out of sorts in the feet he is out of sorts all over. At night make a bread poultice with seven per cent acetic acid solution, soak the foot, pack the poultice in between the toes and over the offending corn, cover the two toes with wax paper and bandage and retire. Next morning remove the poultice. Repeat the process four or five nights in succession then soak the corn and curett it away. Repeat further if necessary.

Pruritus Ani: A severe case of pruritus ani is one of the most harassing and nerve racking conditions. During a paroxysm a man is unfit for society. Cleanliness, dryness and the X-ray are the cardinal points in treatment. Diet in some cases wield an influence but bathe and apply the X-ray to the bare anus and surrounding area and then keep constantly applied a powder of calomel, zinc oxide and pulverized starch. A few applications of nitrate of silver solution will cause the cracks to heal more readily. Repeat the X-ray application every week or ten days till relieved and then two or three times in addition.

Alkalinization: By nature we are omnivorous animals, but by desire we are inclined to overbalance our ration by excessive meat eating which leads to an excess of acid forming substances in the system. A discussion of this question, which is as applicable to

general medicine and too long for this space as it is in dermatology would be of special interest. For several years I have had the principle of alkalization under observation in all skin affections where I felt that it could be rationally used. Before Fisher had promulgated his theory, with which we are all familiar now. I had discussed with my friends in medicine the question of neutralization of the blood, which should be decidedly alkaline in order to carry on the normal functions. The nearer neutral the blood is the higher the acid content, and this is the condition that exists in many of the acute exanthemata scarlet fever, measles and others. Alkalization is a question to be more carefully studied and applied, both in general and special medicine.

In conclusion let me urge you ever to keep your face toward the East watching for all that is good and new, holding to the old things with a careful study of the principle of application, and always endeavoring to raise the standard of our profession and to improve the condition of our fellow man.

Dr. S. C. Barrow (Shreveport): I am surprised to have heard a paper on the subject of eczema by such an authority as Dr. King, which fails to recommend the X-ray as a therapeutic agency. We treat any quantity of skin diseases, and I believe in the old teaching, that a man who can diagnose syphilis and eczema has nearly covered the field of dermatology. I do not treat syphilis. I recognize there are two classes of eczema, the generalized and the localized, and I do not attempt to treat the generalized, recognizing that there must be some systemic cause. I have learned from experience that eczema has a cause and long after that cause has ceased to exist conditions in the skin remain and need treating. We do not treat our cases of eczema but once, and some times twice. The intelligent application of the X-ray routinely gets rid of our cases with one application. We also treat acne, and after several applications they are cured. Many good books we have on X-ray therapy are written by dermatologists. I am surprised the doctor did not mention the X-ray, but I presume he meant it was so clearly indicated and such a positive remedy that he did not feel it necessary to mention it.

Dr. J. W. Faulk (Crowley): This is the second time I have heard Dr. King on the subject of skin diseases, and I feel I should be remiss if I did not say something about this paper. I would like to ask Dr. Barrow how he would manage a fat baby with acute eczema, with the X-ray. I have been in general practice about thirty years, and I have studied skin diseases a little. It is a fact that our medical men know but little about skin diseases. I have had patients come into my office with severe dermatitis that had been neglected the first two or three days and diagnosed as scabies.

I am not prepared to discuss Dr. King's paper in its scientific aspect, but to come down to what we have to grapple with every day. In regard to ichthyosis, I have only seen two cases since 1887. One

was a baby ten years ago, and just two or three days ago I saw a case of a little child that I was able to diagnose as ichthyosis simplex, and advised the mother how to manage the child in order to make it more comfortable. Dr. King mentioned the use of salicylic acid in the treatment of ichthyosis. Dr. Gilchrist, of Johns Hopkins, advises a 10 per cent solution of salicylic acid in winter time and a milder solution in summer. In cases of dermatitis venenata (poison ivy) they suffer severely and are often neglected. I have used with splendid results a saturated solution of boric acid, six ounces, to which is added one ounce of alcohol. I was recently asked by another doctor to see two children who had skin trouble and make a diagnosis. I found two well-nourished children and made a diagnosis of beginning pellagra. It was on the back and hand and in one the tongue was beginning to get red. I advised the family about the diet of these children to possibly prevent something more serious, and there I used butter beans and butter bean soup in addition to milk and eggs.

Dr. D. W. Kelly (Winnfield): I want to take issue with Dr. King on the treatment of erysipelas. I get results in the treatment of erysipelas. I have a patient, a conductor on the L. R. & N. Ry., who has been treated by more than one doctor in this audience with poor results. This man, when I saw him, had an erysipelas condition of leg. I gave an initial purge, at the same time giving one staphlo-strepto bacterin No. 9, giving it hypodermically in the affected tissue, repeating every 24 hours. I also use locally a hot saturated solution boric acid. The fever falls and the swelling and soreness clears up at once under this treatment. With this line of treatment, when I see the case early, my results are uniformly good. I attribute my results to my heroic doses of bacterin.

Dr. J. M. King (closing): Discussing eczema, I had no idea of bringing out all treatments. My idea was to express my opinion as to the causation of true eczema, differentiating it from dermatitis. We use the X-ray as freely as oils and salves or anything else and get good results in a large percentage of cases where it is indicated. We do not treat all cases with the X-ray, only selected cases.

As to Dr. Kelly's experience, we may have a streptococcus infection which will subside after a few days, without any vaccine. About four years ago 800 cases of erysipelas were reported in Bellevue Hospital. They tried every known serum and vaccine, but without any success, and the conclusion drawn was that none of them were of any help.

BASAL METABOLIC RATING AS A BASIS OF CLASSIFICATION AND TREATMENT OF THYROID CONDITIONS.*

By HAMILTON P. JONES, M. D., Internist, Diagnostic Clinic, New Orleans.

1. A sub-normal, or what is commonly called a minus basal metabolic rate, is found in hypo-thyroidism, which may be due to:

Congenital thyroid insufficiency;
Cretanism, myxedema;

*Read before the Orleans Parish Medical Society, May 8th, 1922.

Surgical removal of excess of gland;
Excessive X-Ray or Radium exposure;
Adenomatous goitre, simple, non-toxic;
Terminal stages of toxic, exophthalmic and adenomatous goitre;
Destruction of gland by thyroiditis, tuberculosis and malignant neoplasms.

2. Normal basal metabolic rates are found in normal thyroids, colloid goitres and simple adenomas.

3. An abnormal, or what is called a plus metabolic rate, is found in:

Hyperthyroidism;

Toxic adenomata—*i. e.*, simple goitres, that have after a time produced general toxic symptoms;

Exophthalmic goitre;

Mixed types.

Clinical diagnosis is at times exceedingly difficult. Sometimes it is impossible to differentiate clinically between conditions of hypo and hyper thyroidism unless we aid ourselves by making one or more of the following determinations:

1st. And most important, the basal metabolic rate determination.

2nd. The epinephrin reaction (Goetsch's test).

3rd. The sugar tolerance determination.

4th. A careful and painstaking search of the blood, secretions, intestines, other organs, and the body as a whole, for any condition that might throw any of these most valuable observations, either in, or out, of line with what we would expect, were the case one of thyroid condition only.

Carefully considering the reliability of the information afforded by the metabolic rate determination, the epinephrin test, and the sugar tolerance determination, I believe that they relatively belong if taken separately or collectively in the above order of importance, but they should all be determined wherever necessary and always as a matter of scientific interest and completeness when facilities permit.

My reason for this belief in their relative order of value to the clinician is that I have accumulated a mass of data concerning the basal metabolic rates in health and in various diseases which has enabled me to arrive on this basis at the following broad but safe classification of conditions, other than those affecting the thyroid.

Classification of afebrile diseases according to generally found metabolic rates, tabulated from some hundreds of observations made either in my private practice or in the Charity Hospital of New Orleans:

1. Disease and conditions producing a sub-normal basal metabolic rate, in effect a condition simulating one of hypothyroidism.
 - (a) Extirpation of Gonads and Ovaries.
 - (b) The true pernicious anemias.
 - (c) Bantis disease.
2. Diseases and conditions producing an abnormal basal metabolic rate, in effect a condition simulating one of hyperthyroidism.
 - (a) All of the leukemias, lymphatic and myelogenous.
 - (b) All of the secondary anemias, no matter what the cause, whether it be hemorrhagic, cancer, malaria, or what not.
 - (c) The parasitic diseases, such as pellagra, hook-worm, intestinal parasites, trichinosis, elephantiasis, leprosy, tuberculosis, etc.

It can be readily seen from the above classification that nearly all of these diseases will be picked up in the routine examination of the patient and in consideration of the thyroid condition will be given their proper evaluation.

In passing, I desire to lay claim for the basal metabolic rate determination that it is to be a factor and may be a determining one in settling the point as to whether a case under consideration is one of true pernicious anemia or not. Both the Goetsch test and sugar tolerance determination are subject to such uncertainty at times that they cannot be relied upon either singly or together in the absence of the basal metabolic rate determination.

Plans of treatment of various phases and types of goitre as determined by metabolic rate.

1. Hypothyroidism, sub-normal basal metabolic rate. Minus rate. In thyroid insufficiency from any cause, whether congenital or induced, the treatment is the administration of thyroxin, or thyroid extract, and iodine, no X-Rays and no surgery unless for great deformity or discomfort.

In the case of tuberculosis or malignant growths, everything available must be used, including surgery, radium, deep X-ray therapy, thyroxin or thyroid extract, with iodine.

2. Basal metabolic rate normal.

- (a) Colloid goitres, usually the type found in young girls and adults under the age of 30. These goitres are soft and symmetrical and cause the full neck so often seen. They give a marked positive Goetsch test, and for their type this test is of the greatest help—but through a belief that a positive Goetsch meant exophthalmic goitre, many have been uselessly operated on. They are essentially non-surgical and are not to be treated with X-rays or radium, in the young, unless they cause great disfigurement or distress, and even then, in the case of surgical procedure, the remaining portion may proliferate, or too much may be removed, and myxedema may result, myxedema may also be the result of excessive radiation.

The rational treatment as worked out at the Mayo clinic is the administration of thyroxin, or thyroid extract and iodine. for, as Sistrunk says, many of those removed surgically will return unless thyroid and iodine be given.

- (b) Simple adenoma. Plummer has found that 23% of these become toxic in about 16 years. They are composed of encysted masses of adenomatous tissue, varying in size, giving an irregular contour to the gland. If they do not cause too great disfigurement or distress they will be let alone for a while.

3. In toxic adenoma and exophthalmic goitre the treatment is either surgical or by the use of the X-rays or radium, preferably trying the rays or radium first.

(c) Because in the case of toxic adenomas benefit is only to be expected through their effect on the non-encysted hyper-secreting portion of the gland. No effect will be produced probably on encysted masses. It must, of course, be remembered that various types of goitre may be present in the same individual, and also that, as the case progresses, it may and often does change from one form to another and increase its complexity, therefore no hard and fast rules may be set down.

This one thing must be borne in mind, however, when determining your plan of treatment, and that is, that many good men are obtaining in properly selected cases most satisfactory results with the X-ray or radium, given in sufficient doses, through several portals, never forgetting the thymus region.

Radium and X-ray are of most particular value during an acute exacerbation, during which period the patient may be an impossible or very doubtful surgical risk. In such an instance it may accomplish the purpose of a ligation.

The dose we use at the Diagnostic clinic is $\frac{3}{5}$ of the erythema producing dose given about every four weeks.

The objections to X-ray and radium treatment are their comparative slowness, sometimes a year is necessary, and the risk of burns and skin discoloration; these two latter, however, may be avoided by care and proper screening. In favor of the X-ray or radium is the low mortality rate.

In favor of surgery is the factor of time, which totals very much less and the almost immediate beneficial results, but against which is an average mortality of 5%.

Conclusion: As no definite knowledge of the goitrous patient's status and progress can be had except through basal metabolic ratings, it is fortunate indeed for them when surgeons, and roentgenologists, having their cases in hands, avail themselves of this essential information.

JULY, 1922.

New Orleans Medical and Surgical Journal

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TO THE MEMBERS OF THE STATE MEDICAL SOCIETY.

As this is the first issue of *THE JOURNAL* since its acquisition by the Louisiana State Medical Society, it would seem appropriate at this time, to outline the adopted plan of management, for the sake of those who are not familiar with the facts.

THE JOURNAL became the property of the Louisiana State Medical Society through the action of the Committee of Arrangements of the A. M. A., as detailed in their report published in the June issue. There evolved from this Committee the Board of Directors of *THE JOURNAL*.

The Board of Directors is to have full charge of the business side of *THE JOURNAL*. The actual publication and editing is to be entirely in the hands of the Editorial Staff appointed by the Board of Directors. On Saturday, June the 9th, at a meeting of the Editors, it was decided that, in order to facilitate the work of the staff, there should be established an Editorial Board, composed of an Editor-in-Chief and four Department Editors, each one of the latter representing the four great divisions of Medicine—Medicine, Surgery, Pathology and Bacteriology, and the so-called specialities, Eye, Ear, Nose and Throat and Skin. The personnel of the Board of Editors was determined by election as indicated elsewhere.

It will be noted that the Staff is composed entirely of New Orleans men. The object of the Board of Directors is apparently obvious, though the greatest reason is perhaps to be found in the fact that the domicile of *THE JOURNAL* is in New Orleans. It is our belief, however, that a dependable Corresponding Editor from each of the eight Congressional Districts would afford a desirable representation of the parishes and prove of inestimable value to *THE JOURNAL*. This is said by no means in criticism of the Board of Directors, though some such arrangement would certainly be in keeping with our aspirations for making this a "live" journal in every sense of the word.

With the same object in view, if we meet with the necessary co-operation, the "live" medicine of the State might in the future be supplied you, in the form of the Staff Proceedings of

all our hospitals complying with the regulations of the American College of Surgeons.

It might be said in closing that it was with the keenest sense of responsibility that the Board of Editors accepted the honor conferred upon them by the Staff. To maintain the high standard of *THE JOURNAL*, established and upheld for so many years by the retiring Editor, Dr. Chas. Chassaignac, is a task of some magnitude. To strive to follow in his footsteps might even seem presumptuous, did we not have the assurance not only of his own co-operation, but that of the entire Editorial Staff as well. Our task lies not in assuming the responsibility for all the thoughts and ideas detailed in its pages, but in guarding *THE JOURNAL* in such fashion that it shall fulfill its function as the mouthpiece of the State Society in a clean, fair-minded, useful manner, to which end we shall at all times diligently devote our energies.

REPORT OF LOUISIANA STATE BOARD OF MEDICAL EXAMINERS.*

NEW ORLEANS, LA., April 8, 1922.

*To the Officers and Members, House of Delegates, L. S. M. S.,
Alexandria, La.*

GENTLEMEN: Since the last meeting of the Louisiana State Medical Society, the Louisiana State Board of Medical Examiners has granted 97 certificates as follows:

<i>Medicine and Surgery</i>	{ Examination 74
	{ Reciprocity 11
<i>Midwifery</i>	Examination 12

Seven applicants failed to pass the examinations in medicine and surgery, and seven in midwifery. Of the fifteen applicants for undergraduate examinations, twelve were successful, two unsuccessful, and one withdrew.

The number of physicians legally qualified for 1921 was approximately 1847.

We beg to submit the following financial report from audit of certified public accountant, through date of March 31, 1922:

CONDENSED CASH SUMMARY—MARCH 22, 1921, TO MARCH 31, 1922.

Cash Balance—March 22, 1921.....	\$6,324.97
Receipts—March 22, 1921, to March 31, '22.....	6,899.48
	<hr/>
	\$13,224.45
Disbursements—March 22, 1921 to March 31, '22....	6,061.39
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Cash Balance—March 31, 1922.....	\$7,163.06

The Official List of Physicians and Surgeons, Midwives and Chiropodists for 1921 was sent to all practitioners, and other interested parties, including the office of the Secretary of the State Medical Society, the Internal Revenue Departments, Louisiana State Board of Health, District Attorneys, and Clerks of

*Read before The House of Delegates, Annual Meeting, Alexandria, April 11-13, 1922. L. S. M. S.

Court. Only the names of those who had been issued original or renewed certificates for 1921 were included therein. In order to enhance the usefulness of the Bulletin, and especially for the benefit of the various parish organizations, the Board thought it advisable to make it a double index—that is, it was published as a general alphabetical list, and also alphabetically, by parishes. This, we believe, will be more helpful than the single index, as was published in 1920.

By a comparison of reports, it will be seen that the physicians were more prompt in renewing for 1921. We continue to furnish the office of your Secretary, the Narcotic and Prohibition Departments and the Louisiana State Board of Health with a current list of those who have renewed their certificates. The licenses of the various departments are issued from the lists furnished by us.

We reported last year that we had placed three cases of alleged flagrant violation of the Medical Law in the hands of a special attorney. In one of these cases, on advice of special attorney and Assistant to the Attorney General, the Board allowed the party to take the examination. We are pleased to state that the applicant passed a very creditable examination and so was issued a certificate.

In the case in which we had employed a special investigator, in addition to the attorney, we are pleased to state that the party was convicted and fined. He subsequently moved to the adjoining parish, was referred to the District Attorney, and is reported to have left the vicinity.

In the third case—that of a chiropractor practicing in Alexandria—the Board was granted a permanent injunction. The case has been appealed to the Supreme Court and we expect that it will be argued shortly. We are confident that the decision will be sustained. In this case we were greatly aided by the Rapides Parish Medical Society and the Assistant to the Attorney General, Mr. Walmsley, and their help is much appreciated.

The Board has taken up numerous cases of alleged violation since your last meeting. When possible, the Secretary has a personal interview with the reported party, and if they continue after being warned, legal proceedings are instituted. We have

two cases of alleged violation of many years' standing at present receiving the attention of the Board. The cases have been referred to the District Attorney and the office of the Attorney General is aiding us greatly.

The general condition of midwives is better than ever before. There are not as many cases of abortion reported as formerly, but those reported have been given our attention. Since your last meeting, we have taken out injunctions restraining two midwives from practicing and have had personal interviews with a number of others. A large number of the formerly registered midwives have renewed their certificates; this is particularly true of New Orleans. We are working on the country midwives now, and would appreciate the co-operation of the doctors in the different locations, as it is our desire to get names and addresses of all the qualified and non-qualified midwives of the State so that we can continue to weed out the non-qualified ones.

The chiropodists are practically all registered and there has been but one flagrant violation reported. We have been informed that the District Attorney will act in this case.

We have received several conditions and reports of law violations from doctors, with the request that we not use their names in prosecuting these cases. It is almost an impossibility to comply with these requests because many times we are unable to get information except what is given by the doctors reporting. We feel that it is to their advantage to stop this unlawful practice and would ask that when they report cases to us, that we be allowed to use their names, if necessary.

We succeeded in having our osteopathic friend, Dr. Delano H. Bell, Rectal Specialist, leave this State for other territory.

Unfortunately, the osteopaths have a very broad law and it is almost impossible to convict them for infringing on the Medical Act. There were a number openly violating the Medical Act, but after personal interview and aid of the office of the Attorney General, we have succeeded in stopping most of these. We expect to get out an injunction against one in the next few days. The following opinion from the office of the Attorney General, regarding the limitations of an Osteopath, might be of interest to you: "A careful review of the authorities does not disclose the

fact that osteopaths have the right to prescribe and administer drugs or do obstetrical work. I also find no authority for them to make gynecological examinations.”

We have been informed that the osteopaths will be in Baton Rouge in May to oppose any action of the Chiropractors.

We have been reliably informed that the Chiropractors expect to appear before the Legislature in May stronger than ever before, and it would be well to at once urge your senators and representatives to oppose strongly any efforts on the part of the chiropractors to establish a mode of licensure in Louisiana. There are a number of chiropractors in the State at present, practicing as qualified masseurs; the Attorney General informs that they are within the law in doing this. However, these very same persons are ready to branch out as chiropractors should they be given the right to do so by law. We urge that you do everything in your power to prevent their becoming qualified in Louisiana.

The term of Dr. E. L. Leckert will expire August 22, 1922, and recommendations should be made for the vacancy at this meeting of the State Society. Dr. Leckert has been a member of this Board at irregular times, serving from 1914 to 1917, and 1921, to present date. He has been one of our most active members, always looking out for the interest of the Board and the uplift of organized medicine. It has been a great pleasure to serve with Dr. Leckert and his presence on the Board has meant much to us all.

The Louisiana State Board of Medical Examiners is always ready to co-operate with the Louisiana State Medical Society and the individual members. We will appreciate any report or suggestion for the benefit of organized medicine and assure you that we will do our utmost to protect the legitimate physician.

Respectfully submitted,

LOUISIANA STATE BOARD OF MEDICAL EXAMINERS,

By Roy B. Harrison, M. D.,

Secretary-Treasurer.

CORRESPONDENCE.

June 10, 1922.

New Orleans Medical & Surgical Journal, New Orleans, Louisiana.

GENTLEMEN: I am just in receipt of a letter from your business manager soliciting my professional card for THE JOURNAL. In reply I wish to state that the high standard which we set sixteen years ago for the conduct of our X-Ray Laboratory has been faithfully lived up to, to the best of our professional ability and ethical understanding all these years, and will not permit me to use the advertising space of any professional journal which countenances such gross violations of the ethical code as the card you carry of the Diagnostic Clinic on page 23.

Some days ago this concern over-stepped all limits and used the lay press (New Orleans States, May 28th) in heralding their wares to the public, many statements of which were misleading, and the style of which was repugnant to the Radiological profession.

Following this you published their card which no doubt must have slipped the scrutiny of your censor. It is not my wish to dictate the policy of your journal in its advertising field, or to the Orleans Medical Association its standard of ethics, but as a member of the La. S. M. Association which owns THE JOURNAL, and as president of the La. X-Ray Society, composed of men who are trying to keep their speciality on the high plane which it deserves, I protest against your carrying this card or the professional card of any concern or bunch of doctors who use the lay press in the manner they have.

Respectfully yours.

S. C. BARROW.

We, the undersigned, president of the Shreveport Medical Society and members of the Committee on Ethics, heartily endorse the above letter of Dr. Barrow, and request you to give it publication in the next issue of your journal.

THOS. RAGAN, Pres. Shreveport Med. Soc'y,

W. M. ADAMS,

GEO. B. DICKSON,

R. F. HARRELL,

WILLIS P. BUTLER, Com. on Ethics.

NEWS AND COMMENT.

AT THE ANNUAL MEETING OF THE MEDICAL WOMEN'S NATIONAL ASSOCIATION, recently held in St. Louis, Dr. Elizabeth Bass, of New Orleans, the retiring President, was appointed Delegate to the Medical Women's International Association which meets in Geneva, Switzerland, September 4-7, 1922.

AN INNOVATION has been started by the American Society for the Control of Cancer which we hope will be imitated by other associations interested in establishing closer relations between the medical profession and the public. The Society presented each member of the graduating class with an envelope containing a lecture outline and sample lecture to a lay audience on the subject of cancer; "Fighting cancer with facts," "How the public health nurse can help to control cancer," "Message of Hope" (W. W. Keen), "Prevention and cure of cancer," "Vital facts about cancer," "What are you going to do about it?" "What we know about cancer." All of it material of the greatest value to the graduate himself, giving him the most important data concerning the latest knowledge obtained by research in cancer, and also abundant, well planned and most authoritative texts for the preaching of the Gospel of Cancer Prevention, and impressing upon the public at large the great menace of this disease. Physicians who are interested in this literature, and all should be, would do well to address the American Society for the Control of Cancer, Penn Terminal Building, 370 Seventh Avenue, New York.

THE PRESBYTERIAN HOSPITAL announces through the Chairman of the Medical Advisory Committee, Dr. H. W. Kostmayer, that Dr. Henry Ladd Stickney, of Dwight, Illinois, has been appointed Superintendent with full executive authority. Dr. Stickney was recently in charge of a two-hundred bed hospital and comes to the Presbyterian very highly recommended. He will assume his official duties on July 1.

THE WEBSTER PARISH MEDICAL Society met on Saturday, May 16, 1922. The session was well attended. The next regular meeting will take place on the second Tuesday in September.

THE PRESS ANNOUNCES that Dr. B. F. Gallant will again enter the ranks of hospital superintendents. Dr. Gallant recently

purchased the former home of St. Simeon's School, in Annunciation street near Thalia. The object of the purchase is said to be for the purpose of establishing a modern sanitarium.

THE AMERICAN UNIVERSITY UNION in Europe makes the following announcement: Since the British Universities have recently given renewed attention to advanced and research work and have established the Ph.D. or D.Phil. degree, especially with American graduate students in mind, may I remind you that the offices of the University Union have been so recognized by the Universities that we are able to advise and introduce American graduate students so that without loss of time they may proceed with their work in the British Universities and gain admission to the Reading Room of the British Museum, the Public Record Office, and other archives and collections. In short, the office is so linked up with everything of interest to visiting American scholars that it should be the place of their free registration immediately upon their arrival.

We are under the same roof with the Universities' Bureau of the British Empire, the Office National des Universités et Ecoles Françaises and the Danish Students' Bureau. This Universities' Bureau House is in the centre of the academic quarter of London. We have a common library with the other nations containing the latest Calendars and prospectuses with a common reading room.

Among the functions of the office are the receipt and forwarding of mail, keeping a list of boarding places and posting the latest notices of public lectures, concerts and amusements. During the season Round Table Conferences are held by distinguished British scholars and public men. The residential Universities have waiting lists but have reserved places for suitable students introduced through this office. Applications and credentials should be filed in the spring, or at the latest by the end of June. Several Universities have appointed officers to receive American students, who also act as honorary correspondents of this office.

May I therefore beg you to give this information to your faculty and students and to send them direct to this office with introductions.—Faithfully yours, GEORGE E. McLEAN, Director.

THE FOURTH DISTRICT MEDICAL SOCIETY held its regular semi-annual meeting at Shreveport, on Thursday, May 18. There was an afternoon scientific program at which the president, Dr. C. M. Tucker presided. This was followed by an evening session at the Shreveport Charity Hospital.

DR. ERNEST S. LEWIS, of New Orleans, was re-elected president of the Louisiana Anti-Tuberculosis League at the annual meeting of the league, held in Baton Rouge, June 2. Other officers elected were: Dr. Emil Leipziger, of New Orleans, first vice-president; Mrs. J. St. Clair Favrot, of Baton Rouge, second vice-president, and Sinclair Allison, of New Orleans, treasurer.

THE UNITED STATES CIVIL SERVICE COMMISSION announces open competitive examinations for the following positions: Toxicologist \$3,600 to \$5,000 a year; Associate Toxicologist, \$2,500 to \$3,600 a year; Assistant Toxicologist, \$1,800 to \$2,500 a year. Announcement is also made of an open competitive examination for reconstruction aide. There are vacancies in the Public Health Service in the U. S. Veterans' Bureau.

AT THE LAST MEETING of the American Medical Association in St. Louis, the local profession was represented by twenty-five physicians. The list follows: Drs. C. A. Bahn, A. M. Caine, M. Feingold, L. A. Fortier, E. L. King, W. E. Levy, P. B. Salatich, S. K. Simon, C. W. Unsworth, W. H. Seemann, A. B. Pitkin, W. S. Patton, H. E. Miller, Urban Maes, A. L. Levin, Allen Eustis, Oscar Dowling, L. R. DeBuys, J. A. Danna, Isidore Cohn, W. H. Bloek, Elizabeth Bass, R. A. Strong, C. C. Bass, H. W. E. Walther.

REMOVALS.—Dr. J. N. Blume, from Jena, La., to Arcadia, La.
Dr. B. A. Norman, from McDade, La., to Sibley, La.

Dr. B. W. Kendall, from New Orleans to 1317 Hampton Ave., Columbia, S. C.

DIED.—Dr. C. C. Crawford, of Bienville, La., aged 45 years.
Dr. M. A. Taylor, of Torras, La., aged 65 years.

BOOK REVIEWS AND NOTICES.

All new publications sent to the JOURNAL will be appreciated and will invariably be promptly acknowledged under the heading of "Publications Received." While it will be the aim of the JOURNAL to review as many of the works accepted as possible, the editors will be guided by the space available and the merit of respective publications. The acceptance of a book implies no obligation to review.

Abdominal Pain, by Prof. Dr. Norbert Ortner, chief of the Second Medical Clinic at the University of Vienna; authorized translation by Williams A. Brams, M.D., formerly Lieutenant-Commander Medical Corps, U. S. N., and Dr. Alfred P. Luger, First Assistant, Second Medical Clinic, University of Vienna. New York: Rebman Company, 1922. How often are we called upon to arrive at a diagnosis when abdominal pain is the presenting symptom, and how difficult to determine the cause! A study of Dr. Ortner's book offers much of importance to students of this subject. His treatment of the text is such as we might expect from a conscientious scholar of vast experience. The book deals more extensively with abdominal pain than any single volume of our acquaintance. Works of this character are a distinct gain to the literature of clinical medicine. Storek.

The Mechanics of the Digestive Tract, by Walter C. Alvarez, M.D., Assistant Professor of Research Medicine, George Williams Hooper Foundation for Medical Research, University of California Medical School. New York: Paul B. Hoeber, 1922. The author, a well-known original investigator, has opened a field rich in possibilities to the student of gastro-enterology. The possibilities are alluring. "The Mechanics of the Digestive Tract" open up a field which will require deep ploughing. The gradient theory is applied to explain many of the common gastro-intestinal symptoms. To quote the author: "During 1915 gradients of rhythmicity, irritability and latent periods were found in the stomach; and a sort of pacemaker was located in the lesser curvature near the cardia. Later, my assistants and I showed that, in addition to the rhythmic gradients in the stomach and intestines, and probably underlying them there are gradients in metabolism." The author states: "I must, in all fairness to my readers, emphasize the fact that much of what is written in chapters IX and X is purely suggestive." It is encouraging that our research workers are doing such good and helpful work. The practice of gastro-enterology has been advanced by the research of Dr. Alvarez. Storek.

Diathermy in Medical and Surgical Practice, by Claude Saberton, M.D., Paul B. Hoeber, New York. This little manual gives in a very concise manner the technique of high frequency therapy, both medical and surgical. It is extensively illustrated and an extensive bibliography accompanies the volume. It should meet the needs of the general practitioner interested in this line of therapeutics. A. E.

Practical Massage and Corrective Exercises, by Hartvig Nissen. F. A. Davis, Co., Philadelphia. This fourth edition revised, written by one who has had practical experience, contains 68 illustrations. The text is clearly written and is adapted not only to the needs of medical students, but nurses as well. A. E.

Physiology and Biochemistry in Modern Medicine, by J. J. R. Macleod. C. V. Mosby Co., St. Louis. There are several changes made since the second edition. The section of the nervous system has been entirely recast and rewritten. This section, besides being brought up to date, also includes an account of the fundamental principles of neuro-muscular physiology. Another section which has been rewritten is that relating to the chemistry of respiration, taking in the practical aspect of the subject in relation to clinical investigations. The chapters on metabolism and on respiratory exchange are clearly written and in such language that one need not have a thorough knowledge of chemistry to understand the text. A detailed description of the Haldane Gas Analysis apparatus is given with instructions for calculating out the basal metabolism in a simple manner. At this time when so many are making determinations of basal metabolism with simpler apparatus than the Haldane, this chapter alone will recommend the book. However, the chapters on nutrition and growth, including a consideration of accension, food factors (vitamines), also strongly recommends the book as one well adapted to supply the most recent knowledge of biochemistry, written in such vernacular that the general practitioner can readily understand it. A. E.

PUBLICATIONS RECEIVED.

GOVERNMENT PRINTING OFFICE, Washington, D. C.

United States Naval Medical Bulletin, Vol. 16, No. 5, May, 1922.

Birth Statistics, 1920, Sixth Annual Report.

Public Health Reports, Vol. 37, Nos. 19, 20, 21, 22. Vol 36, Part 2, July-December, 1921.

MISCELLANEOUS.

New Growths and Cancer, by Simeon Burt Wolbach, Harvard University Press; **The Eighteenth Amendment**, by Charles Taber Stout, Mitchell Kennerly; **United Fruit Company, Medical Department, 10th Annual Report, 1921**; **Monographs of the Rockefeller Institute for Medical Research, Studies on Hookworm Infection in Brazil, 1918-1920**, by Wilson G. Smillie; **Principles of Hospital Administration and the Training of Hospital Executives**.

REPRINTS AND REPORTS.

Chronic Intestinal Stasis, by Sir W. Arbuthnot Lane, Bart., C. B.; **Butyn, a New Synthetic Local Anesthetic: Report Concerning Clinical Use**, by Albert E. Bulson, Jr., M.D.; **Estudios Experimentales Sobre Las Leptospiriosis**, by Dr. W. H. Hoffmann; **Applicazioni e limiti dell'opoterapia**, by Prof. Dott. Cesare Serono; **Public Health Report Nos. 701, 713, 721, 724**; **X-Ray and Clinical Findings in Normal Chest (of children 6-10 years)**, from the National Tuberculosis Association, Medical Research. Henry K. Paucoart, Kennon Dunham, F. H. Baetjer.

MORTUARY REPORT OF NEW ORLEANS.

Computed from the Monthly Report of the Board of Health of the City of
New Orleans, for May, 1922.

CAUSE	White	Colored	Total
Typhoid Fever	2	2	4
Intermittent Fever (Malarial Cachexia)			
Smallpox			
Measles			
Scarlet Fever			
Whooping Cough			
Diphtheria and Croup	2		2
Influenza		2	2
Cholera Nostras			
Pyemia and Septicemia	3	1	4
Tuberculosis	24	31	55
Cancer	31	8	39
Rheumatism and Gout	1	1	2
Diabetes	7	1	8
Alcoholism		1	1
Encephalitis and Meningitis	1	1	2
Locomotor Ataxia			
Congestion, Hemorrhage and Softening of Brain..	24	10	34
Paralysis	1		1
Convulsions of Infancy			
Other Diseases of Infancy	13	4	17
Tetanus			
Other Nervous Diseases			
Heart Diseases	71	31	102
Bronchitis	3	1	4
Pneumonia and Broncho-Pneumonia	20	19	39
Other Respiratory Diseases			
Ulcer of Stomach	2	1	3
Other Diseases of the Stomach	1	1	2
Diarrhea, Dysentery and Enteritis	15	11	25
Hernia, Intestinal Obstruction	3	2	5
Cirrhosis of Liver	5	6	11
Other Diseases of the Liver	2	3	5
Simple Peritonitis			
Appendicitis	7	2	9
Bright's Disease	14	12	26
Other Genito-Urinary Diseases	4	6	10
Puerperal Diseases	8	3	11
Senile Debility	3	1	4
Suicide	2		2
Injuries	13	5	18
All Other Causes	52	30	82
Total	334	196	530

Still-born Children—White, 13; colored, 4; total, 17.

Population of City (estimated)—White, 276,000; colored, 102,000; total, 378,000.

Death rate per 1000 per annum for month—White, 13.59; colored, 21.39; total, 15.71. Non-residents excluded, 11.89.

METEOROLOGIC SUMMARY (U. S. Weather Bureau).

Mean atmospheric pressure	29.93
Mean temperature	76.
Total precipitation	5.75 inches
Prevailing direction of wind, southeast.	

NEW ORLEANS MEDICAL AND SURGICAL JOURNAL

GENERAL INDEX.

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Vol. 75

AUGUST, 1922.

No. 2

ORIGINAL ARTICLES.

(No paper published or to be published in any other medical journal will be accepted for this department. All papers must be in the hands of the Editors on the tenth day of the month preceding that in which they are expected to appear. Reprints may be had at reasonable rates if a WRITTEN order for the same accompany the paper.)

THE SURGICAL ASPECTS OF BENIGN LESIONS OF THE BREAST.*

By WALTER E. SISTRUNK, M. D., Section on Surgery, Mayo Clinic, Rochester, Minnesota.

As the public is becoming better educated to the fact that cancer, if operated on in its early stages, is often curable the medical profession is being consulted more often for advice concerning tumors of the breast. The character of the advice given to such patients is very important. Delay in advising proper surgical interference when it is indicated, may eventually cause the patient's death; on the other hand, it certainly is undesirable to advise unnecessary operation.

Experience has shown that the error in diagnosis of mammary lesions is larger than is usually supposed. McCarty has shown that 5.5 per cent of such tumors diagnosed malignant in the

*Read before the Louisiana State Medical Society Annual Meeting, April 11 to 13, 1922.

Mayo Clinic prove to be benign, and that 11.2 per cent of those diagnosed benign prove to be malignant. If such an error occurs generally, and it certainly must, it shows the difficulty in distinguishing clinically between benign and malignant conditions of the breast.

Cancer of the breast begins as a local disease. We have reason to believe that it originates from cells which in some way lose their normal characteristics, and it is unreasonable to assume that it develops without some preliminary disturbance in the tissues. During its incipency, persons affected with cancer do not show symptoms and, as a rule, it is only after the growth has ulcerated or involved the glands that constitutional effects of the disease become manifest.

If the history of surgery for cancer of the breast is studied, the marked improvement in the results obtained at the present time as compared with those obtained some years ago will be noted. For many years cancer of the breast was looked on as a constitutional disease and all persons affected were expected to die. With improvement in the surgical technic came an increase in the number of cures. During recent years the percentage of cures has further increased because earlier operations have been performed.

In the last series of cases of cancer of the breast studied in the Mayo Clinic, in which 218 consecutive patients were traced, it was found that 64 per cent of patients operated on before the glands were involved, were alive from five to eight years after operation, while only 19 per cent of those operated on after glandular involvement could be demonstrated were alive a similar length of time. It was also found that when cancers were operated on very early, even simple amputations of the breast gave surprisingly good results. For example, simple amputation of the breast alone was performed on six patients for supposed chronic mastitis which later proved to be carcinoma, and four (66.6 per cent) were alive and free from recurrence from five to eight years after operation. One patient was well and without recurrence when last heard from, two years after operation. The sixth patient could not be traced. The difference in the results obtained in early cases and in those in which the glands are involved at the time of operation is very striking, and noth-

ing can show more clearly the need of the early recognition of malignancy in the breast if patients are to be given the greatest chance for cure. If all cancers of the breast could be recognized early, it is probable that 75 or 80 per cent of the patients could be permanently cured.

Solid tumors of the breast and tight cysts which cannot be differentiated from solid tumors should be removed as soon as discovered. The most common of these tumors are fibromas, fibromyxomas, and fibro-adenomas. Every now and then we find a carcinoma which has developed in one of these tumors. A bloody discharge from the nipple, even if no tumor could be demonstrated, has so often been proved to be caused by a papilloma in one of the ducts that surgeons very generally recognize this condition as an indication for a simple amputation of the breast. We know that these papillomas often become malignant and, as they are usually multiple, a simple amputation is the procedure of choice. Surgeons so generally agree with regard to the treatment of these conditions that nothing more need be said concerning this phase of breast surgery.

Probably the most common lesion of the breast, except cancer, for which the surgeon is consulted, is chronic mastitis, and it is in such cases that he has the greatest difficulty in deciding just what treatment to advise. A certain type of chronic mastitis is often seen clinically in young women. This condition is usually *bilateral*, and nodular masses form in the *breasts*, although in some instances a single localized mass may be present in one breast. These masses change from time to time; they may disappear entirely, and later reappear in other portions of the breast. The disease is usually associated with pain in the breast, down the arms or in the chest. The skin is not attached to the mass and, as a rule, the glands in the axilla are not enlarged. During the menstrual periods the pain increases and often the mass becomes tender and enlarged. Occasionally definite cysts form, but not so often in this type of mastitis as in the type seen in older women.

A second type of mastitis is seen clinically in women from thirty-five to fifty years of age, which has been described under various names, such as chronic cystic mastitis, abnormal involution, Reclus' disease, Schimmelbusch's disease, and atypical hy-

pertrophic parenchymatous hypertrophy of the breast. Some patients have this type of mastitis without symptoms, but oftener it produces pain in the breast, chest, or arms. Both breasts are usually involved. The skin is never adherent to the breast and only occasionally are the axillary glands palpable. In some instances there may be a watery, straw-colored or greenish discharge from the nipple. On palpation numerous masses may be felt throughout both breasts and very often cysts of various sizes are recognized. In this type of mastitis marked changes may occur in the epithelium lining the acini, and cysts of various sizes may form in the acini and ducts. The condition occurs at an age when cancer is most likely to develop and it is often difficult clinically to differentiate it from cancer.

Cancer which develops as a single tumor usually can easily be distinguished from mastitis, but diffuse carcinomas of the breast may present a picture so similar to that seen in chronic, cystic mastitis that it is impossible to differentiate the two. Occasionally also a definite chronic mastitis is seen and with it is associated one or more small but definite carcinomas which may be situated in different portions of the breast. Certain microscopic pictures also are seen in chronic mastitis which so closely resemble malignancy that skilled pathologists have great difficulty in making a diagnosis.

The true relationship between chronic, cystic mastitis, pre-cancerous conditions of the breast, and true cancer has been discussed by competent pathologists for many years, but to the present time differences of opinion exist. Many pathologists believe that there is a distinct relationship between cancer and chronic cystic mastitis in women over forty. A very large proportion of the breasts removed for cancer show definite mastitis on microscopic examination. It must be said, however, that chronic, cystic mastitis in the breast is seldom seen to progress until it is definitely transformed into cancer. Reports have been published of the results following operations for mastitis when the entire breast had not been removed, and in very few instances has it been found that cancer developed later.

The medical treatment of chronic, cystic mastitis is unsatisfactory. Besides the wearing of a tight-fitting brassière to support the breast and the occasional application of a weak solution

of tincture of iodine or of mercurial ointment very little can be done. Roentgen ray has been suggested as a means of treatment, but thus far little has been accomplished by its use. The disease in young women has a tendency to change from time to time, and in many instances spontaneously cures itself. As cancer is comparatively rare in young persons, this type of mastitis need cause no special anxiety. In older women the process known as chronic, cystic mastitis usually disappears after the menopause. Before the menopause it is difficult to cure the condition by any medical measures. In young women it may become necessary to remove a localized area of mastitis on account of excessive pain or because cysts have formed which produce a tumor suggestive of malignancy, but before operating the patient should be warned that the disease may later recur in another portion of the breast.

Just how far surgeons should go in advising surgery in chronic, cystic mastitis in women from thirty-five to fifty years of age is difficult to determine; they are being confronted with this problem more often than ever before. As the condition usually involves various parts of the breast at different times, local excision of involved areas is of no value. One hesitates to advise amputation for chronic, cystic mastitis when there is no evidence of malignancy, because experience shows that such patients seldom develop cancer.

There is a group, however, which constitutes a small percentage of the patients consulting the surgeon for chronic, cystic mastitis, in which it is impossible to determine clinically that malignancy is not present, and in this group we are justified in more radical procedures. We know from experience that when such a breast is amputated, besides the mastitis, one or more small carcinomas may be found in entirely different portions of the breast; in some instances the entire breast may be involved with diffuse carcinoma. Diffuse carcinomas were found in sixteen of the 218 patients comprising the last series of patients with cancer of the breast studied in the Mayo Clinic, and it is reasonable to believe that these cancers must have developed on pre-existing mastitis. Cancer of this type, in our experience, has invariably proved fatal within five years. Unfortunately, in cases of mastitis in which malignancy is suspected,

very little is to be gained by removing a portion of the breast for examination, as the cancer, should it be present, may not be in the specimen removed, and the only definite means of discovering the cancer is by removing the entire breast for examination. If one delays in advising amputation in such cases the golden opportunity to cure the patient may be lost.

I do not believe that suspicion of malignancy justifies radical amputation. Single solid tumors or tight cysts which resemble carcinoma should be removed with an area of tissue surrounding them for immediate microscopic examination before the radical measure is resorted to. In cases of abnormal involution in women over forty, in which malignancy is suspected it is probably best to remove the entire breast for examination. A complete immediate radical amputation should be performed. We competent pathologist should make frozen sections from the tissues most suspected, and if he finds the condition is malignant have records of a number of patients operated on in this manner who have remained well.

Localized tumors may be removed with very little deformity through an incision along the outer edge of the breast of the type described by Warren. A subcutaneous amputation may also be performed through this incision and the nipple saved. In thin patients with small breasts very little deformity results. The question of mutilation which has been brought up as a reason for avoiding surgical procedures must certainly be considered lightly in cases in which malignancy is suspected.

Bloodgood has recently published articles dealing with the surgical treatment of certain benign conditions of the breast. He, no doubt, is correct in the main in the interpretations he has made from his observations and studies. While it is probable that a surgeon of his surgical and pathologic experience may be able to differentiate grossly the different types of cysts, and so forth, which he describes and to decide just what should be done in a given case, it will be difficult for those of us with less experience always to make such distinctions with certainty. The blue-domed cyst he mentions is undoubtedly a benign cyst, but the mere finding of such a cyst does not mean that a carcinoma may not be present in some other portion of the breast. As he suggests, some breasts, which could be saved, are sacrificed each

year, but is it not better occasionally to sacrifice a breast in which malignancy may never develop than to overlook an early cancer which could have been recognized in no other way?

We cannot expect further improvement in the results from operation for cancer of the breast from a change in the technic of the radical operation as it is performed by most surgeons at the present time. Recurrences in early cases come mainly in positions which will never be accessible to the knife and the only chance of bettering results lies in earlier operation. If all cancers could be discovered through exploratory operations before definite clinical diagnoses are possible, a very high percentage of patients would be permanently cured. Certainly the results now obtained will not be improved by the "watching and waiting" policy; this has already cost thousands of lives. I could cite many examples of patients who have come to the Clinic because of cancer of the breast, which had reached an extreme stage while being watched by either the patient or a physician.

As the public becomes better educated, surgeons will no doubt be consulted oftener for tumors of the breast which in reality do not exist. After careful examination in these cases, the surgeon must be able to say that no tumor is present. These patients should be kept under observation until it is certain that the trouble complained of has completely disappeared. I think it may safely be stated that the conservative policy in dealing with conditions of the breast in which the question of malignancy enters at all will, even in the hands of the best surgeons, tend only to increase the number of deaths from cancer.

DISCUSSION.

Dr. E. D. Martin (New Orleans): This is one of the most important subjects that we have to deal with. The great trouble is that the majority of us who do this work are not equipped to do it as we should. We are not all in position to get results as thoroughly as an institution like the Mayo clinic. Dr. Sistrunk has gone over the subject very thoroughly and I am glad to see that the pendulum is swinging back. About the time I began to do surgery we were taught that all breast tumors should be amputated and a great many are still doing it. Now, the time has come when we are told that not all tumors should be operated. Some time ago I came to this conclusion from my own observations, that we were operating on too many inoperable cases. We were operating on cases of mastitis in old people who probably would live longer without the operation and we were operating on cases of suspected conditions which did

not require operation. The result is that I am doing fewer operations every year. In the service I have at the Charity Hospital we have a great many of these cases, but unfortunately they come when the condition is hopeless. At one time we did operate these cases because we were taught that radical operation would save a great many, but experience soon taught us that after a certain time we could not reach the condition and we were simply endangering the lives of our patients.

I am very sorry that the doctor did not go more fully into detail; but as he has said, the diagnosis of malignant or non-malignant condition is most difficult, and it is only such men as Bloodgood and men who have seen so many of these cases who can differentiate. In young women these cystic conditions are very common, especially in neurotics and also in older women who have borne children and have not nursed them. These cases are doubtful. In many cases they are not malignant but the difficulty is to decide which are malignant and which are not. I have made it a rule to keep them under observation and operate on such cases as are giving annoyance, because many times the tumors are such a menace to the mental condition that they ask for operation. I am glad to say that a great many of these cases can be done by simple removal of the breast—a sub-dermal operation. For years I have done the Warren operation.

It is hard to tell anyone just when these cases should be operated on. The type we get at the hospital are usually negroes. They do not consult anyone until they suffer from pain. We are doing fewer and fewer operations, however, every year. One thing is certain, people are better educated. They have heard so much propaganda that a woman should come to the office in time when she has a pain in the breast. Sometimes this is due to nothing more than a pendulous breast and with a brassier they are relieved. But they are coming earlier at any rate, and what I want to emphasize is that all of the fibrous tumors should be removed or kept under observation.

The doctor calls your attention to one important point, and that is, that the man who is not equipped with a pathologist should not operate on these cases. I believe for the safety of the patient he had better send her to someone who is equipped to make the diagnosis. The question of diagnosis by gross-examination is difficult. A few weeks ago a very stout woman came to my office and all I could detect was an axillary gland. I began the operation not thinking of any malignancy, and by dissecting out the gland I found the axilla was full of large carcinomatous glands. The primary focus was not bigger than the end of my finger and was found after a careful dissection. It was impossible for anyone to have diagnosed that case, but because she had suffered pain for three months we determined to do an exploratory operation. The question is not easy. It is simpler in the thin patients, but the whole thing in a nutshell is to determine when it is malignant, and that I cannot tell you how to do.

Dr. C. C. Crawford (Bienville): This is an important subject, but due to the vast amount of propaganda, we have educated the women to come to us early. I think it is a great pity for a man like Bloodgood, after educating the women to come early, to now decry what he terms mutilating operations. We are not all like Bloodgood, but we want working rules when we can get them. I think Dr. Sistrunk has helped us wonderfully. The simple tumor

seldom becomes malignant and these we can locally remove; but the mastitis we see occasionally with bloody discharge, the breast should be sacrificed. I believe we should err on the side of sacrificing a healthy breast if you are in doubt. If I am in doubt I take it out.

Dr. Peter B. Salatic: I think pain is a valuable sign in a good many of these chronic mastitis cases. I recall a case I operated some time ago. I watched this woman for several years and I suggested operating under local, but she said it did not hurt. About three weeks before she decided to be operated, it began to give her pain. I removed the growth, a purely cystic growth and sent it down for section, and the report returned malignancy. I removed the entire breast at the same sitting.

One thing I want to ask the doctor—I have about three women now who have a green discharge and I do not know what to do with them. One has had it for over ten years. I have palpated her, but am unable to find any signs of either pain or mass in the breast. They object to having the breast removed unless I give them a good reason for doing so.

Dr. J. A. Danna (New Orleans): I am glad to hear, coming from a clinic where everything is done with scientific accuracy, a plea for judging these cases from a clinical standpoint. In other words, you can tell more if you have had lots of experience in handling breasts of that kind than even microscopic sections will tell you. It is a plea for the old clinician, it is a plea for the development of the old qualities of telling things by observation. I want to bring out that point a little further. A number of years ago Dr. McCarty, of the Mayo clinic, made a diagnosis from a rush section. I came home and told the men that, because they had repeatedly told me it could not be done. So I asked Dr. McCarty about it and he said: "I used to think it could not be done myself, but as time goes on I have developed the ability to discriminate between the cancer field and that which does not contain cancer cells." And now I am able to tell you that the men I was working with at that time have developed the clinical ability to make a rush section and tell whether it is malignant. If you will do this every time you have a case after a while you will get to the place where you can make a rush diagnosis.

Dr. J. A. Lanford (New Orleans): Until we know the actual cause of malignancy, we cannot lay down any hard and fast rules for the handling of all conditions of the breast, which are associated with a tumor mass. We do not know whether the malignancy results from a chronic irritative process, from a displaced cell or a specific type of infection.

However, it would be of help if all tumors of the breast which are not clinically malignant as evidenced by retraction of the nipple or adherence to the skin, be removed in their entirety and submitted for a microscopic study. (I am speaking, of course, of those cases which at the time of operation could not be submitted for a rush section.) In that way you have done what is the best possible for your patient.

I am inclined to think that it is much better to remove a breast that is benign, than later have to remove it following a pathological report of malignancy, because the manipulation incident to the removal of the malignant piece of tissue for microscopic study breaks

away a few of the tumor cells, which find their way in the lymph channels to be carried to more or less distant parts of the body.

Dr. E. D. Martin: We are having our pathologist examine these cases before operation. Does your pathologist see all cases before operation?

Dr. W. E. Sistrunk (in closing): No, he does not. If he wishes to know anything clinically about the case, he comes in and asks and we furnish him with the data he wishes.

In regard to the question of Doctor Salatich, as to whether we should amputate the breast from which there is a greenish discharge, I do not think we should. The fact that a woman has a mastitis does not mean that the breast should be removed. Hundreds of such cases probably never will develop cancer.

Since I selected this subject for my paper I have had a half dozen poorly handled cases come to my attention, which stand out so definitely that I wish to relate them. About two weeks ago Doctor Judd removed a breast for a supposed mastitis. Clinically the condition was benign. He saw in the specimen removed the blue-domed cysts mentioned by Bloodgood, and mentioned these as being an indication of benignancy. So sure was he that the condition was benign that he left the assistant to close the wound. The pathologist then reported the breast as malignant. A radical amputation was immediately done and the axillary glands were found to be involved.

A few days afterwards Doctor Mason operated upon a female doctor, removing the breast for a supposed mastitis associated with a small fibroma. The mastitis and the fibroma were found when the breast was sectioned, and in addition to this a small but definite carcinoma about as big as the end of my little finger.

One afternoon recently I saw in consultation two patients with breast tumors. One had a breast tumor for four months that had been treated by local applications. She was found to have an extensive involvement of the skin with a fixed mass in the axilla. There were numerous malignant nodules in the skin which extended backward through the axilla to the scapular region. The condition was inoperable.

The same afternoon I saw another patient with a breast tumor near the nipple. It was impossible to say whether this was benign or malignant. I advised removal for microscopical diagnosis. This woman had been through the hands of five doctors in a few months and every one except the last one advised that the tumor be left alone. I could cite a number of similar cases. A woman on whom I recently did an amputation of the breast for carcinoma with involvement of the axillary glands had seen a doctor in November who advised her to leave the tumor alone; she saw him again in February and the same advice was given. In March she was told by the same doctor that the condition was suspicious and operation was advised. Another woman upon whom I operated recently for carcinoma had been told three months before that her breast was normal and to stop worrying about it. So you see how important the diagnosis of breast tumors is. If malignancy is overlooked, the patient loses the golden opportunity for a cure.

My paper sums it up in this way: I think the solid tumors should be removed. A small percentage of these become malignant but

I do not believe that breast cancers come largely from these growths. Mastitis in young women is not serious and often develops in different parts of the breast. Local incisions of such areas do not do much good, as the condition tends to recur in other portions of the breast. Leave them alone unless you are compelled to do something in a surgical way on account of excessive pain or the formation of areas which suggest malignancy. In older women who develop mastitis the question becomes an important one. If the condition in no way resembles malignancy, clinically, I think it should be left alone. However, if it is impossible, clinically, to rule out malignancy, I believe the only way that this can be ruled out is by performing a simple amputation of the breast. The removal of an area for microscopical diagnosis in such cases is not a safe procedure as shown by the fact that every now and then in such cases we find a very small carcinoma in an area of mastitis which probably would have been left had the breast not been amputated.

CAESAREAN SECTION UNDER LOCAL ANESTHESIA, IN PUERPURAL ECLAMPSIA.*

By J. A. HENDRICK, M.D., Shreveport, La.

It is not the purpose of this paper to discuss the symptoms and treatment of various forms of toxemias during pregnancies, but to place before you a study of a certain type of case that has come under our observation at the Highland Clinic. In the past four years we have admitted fifteen cases falling in this class. In five of these, Cæsarean section was done under general anesthesia with the loss of two patients. In the last ten cases, we delivered by Cæsarean section under local anesthesia, with no loss of life to the mothers or babies, except in one case, that of a fœtus which had been dead for several days.

The cases herewith reported were full-term pregnancies, presenting the symptom complex of eclampsia,—profoundly toxic, convulsions frequent and severe, labor not set in and no dilatation of the cervix,—rendering the condition so grave that delivery by some method was frankly indicated on admission.

There were *four methods of delivery* to be considered:

1. Introduction of bags with the idea of stimulating uterine contractions and delivery as in a normal case or assisted by forceps.

*Read before the Louisiana State Medical Society Annual Meeting, April 11 to 13, 1922.

2. General anesthesia, rapid dilatation of cervix and delivery by forceps or version.
3. Cesarean section under general anesthesia.
4. Cesarean section under local anesthesia.

Discussion: 1. On account of the toxic condition, and the amount of morphine or other drugs given to control convulsions, introduction of bags has proven to be a failure, as uterine contractions necessary to dilate the cervix and precipitate labor cannot be established. In one case a large bag remained in the cervix for 48 hours with no effort at delivery.

2. *General anesthesia*, with rapid manual dilatation of the cervix (which is not very rapid unless it is torn) and delivery by high forceps or version, certainly carries with it great danger to mother and child. It can hardly be done under two hours. The shock and mutilation to the mother, the great danger to the child, and the length of time the anesthetic is necessarily administered, with certainly increased toxic condition, puts the method out of consideration.

3. *Caesarean section* under *general* anesthesia is in our opinion second choice, but the anesthetic undoubtedly throws an extra burden on the patient and is followed by nausea which interferes with the post-operative management of the case.

4. *Caesarean section* under *local* anesthesia is by far the safest method of delivery. It can be done in a very short time, with no pain, no shock, no added toxemia, and no nausea following operation to interfere with the administration of fluids, or any treatment deemed indicated as soon as the patient reaches her room.

I feel certain that had a general anesthetic been given in our last ten cases, the records would not have been so good, and in looking back over my past experience with high forceps and general anesthetics, etc., in this class of cases, I can recall several that I am confident would not have proven fatal as they did, had Cesarean section been done under local anesthesia.

Case 4586. F. V., Shreveport, La. Colored. Age 23. First pregnancy. Previous history not important. Entered Sanitarium on September 24th, 1921, in comatose condition. Had a number of convulsions the night previous, and was seen by family

physician, who referred her to the Sanitarium. She was operated under local at 11:40, and operation was completed at 12:15. Patient came out of coma on day following, and gradually improved, going on to a normal convalescence so that she was able to go home on the 12th day.

Case 5430. Mrs. H. M., Arcadia, La. White. Age 38. First pregnancy. Previous history not important. Was 9 months pregnant when admitted to Sanitarium, and was profoundly toxic. Family physician had made frequent urinalyses during period of pregnancy on account of her age, and saw her about a half hour before her first convulsion, which occurred April 8th, 1921, previous to which time she had been feeling fine. Urinalysis made the week before had showed no albumen. As soon as physician had reached his office following a visit to patient, her husband came for him, saying that she had just had a severe convulsion. From that time until the next day when she was operated on, she had about 18 convulsions, all very severe. Labor had not commenced, the cervix was not dilated, and felt very rigid. Soon after reaching the Sanitarium she was taken to the operating room and delivered under local anesthesia of a full-term baby girl. Mrs. M. left Sanitarium on April 24th, in good condition. Urine still showed some albumen. She had no more convulsions following delivery, her mind cleared up in about 3 days, and convalescence was normal.

Case 5598. Mrs. L. M., Shongaloo, La. White. Age 23. First pregnancy. Past history not important. Entered Sanitarium May 22, 1921, giving history of having had repeated convulsions in the past 24 hours, which were very severe. She was in a comatose state, and eyesight was markedly impaired, so that she was unable to distinguish people around the bed. Urine was scanty, with a quantity of albumen. P. S. T. test 1st hour was $2\frac{1}{2}$, 2nd hour 5, and 3rd hour $2\frac{1}{2}$. Her condition gradually grew worse, labor had not set in, cervix was not dilated. Caesarean section under local was done on the 23rd, with delivery of a full-term baby. Patient had one convulsion after she reached her room. Her mental condition gradually cleared up, and she went on to a good recovery, leaving the Sanitarium on June 11th, 1921. Urine was practically clear at this time.

Case 5549. Mrs. L. B. T., Coushatta, La. White. Age 31. Mother of one child. $8\frac{1}{2}$ months pregnant. A week previous to entering the Sanitarium she complained of having trouble with her eyes, and suffered with headaches. The day before she entered the hospital she had a severe convulsion, at which time family physician gave her an opiate to relieve the convulsions, also a large dose of calomel. However, between this time and the next morning, on April 16th, 1921, she had 3 more convulsions and it was decided to bring her to the Sanitarium for delivery. Urine was very scanty, with a quantity of albumen, pus and casts. As there was no dilation, and the toxic condition was great, an immediate Caesarean section under local was done, with the delivery of a foetus which had been dead for several days. There were no more convulsions. The toxic condition gradually cleared up, and she left the Sanitarium May 1st, feeling fairly well. There was some albumen in the urine at this time.

Case 6676. Mrs. B. C., Cedar Grove, La. White. Age 28. Patient 9 months pregnant. Entered Sanitarium January 22, 1922, in an unconscious state. She had suddenly become nauseated and blind, and soon went into convulsions which were very close to-

gether (22 in all). She did not regain consciousness until after baby was delivered on the 23rd. Previous history was negative except that she did not feel very well at times. Caesarean section was done under local, with the delivery of a rather small baby. The mother regained consciousness on the second day, and was discharged from the Sanitarium February 9th, in good condition. Post-operative course showed gradual improvement from the time of operation.

Case 5991. Mrs. C. J. H., Grand Bayou, La. White. 8½ months pregnant. Entered Sanitarium August 18th, 1921, in comatose condition since the previous day. History of rapid and severe convulsions. Delivery under local of a healthy baby. Convalescence with gradual improvement from time of operation until time of discharge on September 3, 1921.

Case 5820. M. M. Colored. Age 21. Full-term pregnancy. Toxic condition about the usual course as in previous cases. Delivered under local of a healthy baby. Left Sanitarium in good condition on the 12th day.

Case 4560. M. C. Colored. Age 19. Entered Sanitarium in comatose condition. History about as in above case. Delivered under local of a healthy baby. Left Sanitarium in 15 days in good condition.

Case 4296. C. S. Colored. Age 28. Entered Sanitarium in comatose condition. History of convulsions for previous 24 hours. Labor had not set in, there was no dilatation. She was delivered under local. Mother and child were able to go home in 12 days.

Case 4632. L. W. Colored. Extremely toxic. Rapid convulsions during past 48 hours, no labor pains, no dilatation. Urine scanty. Delivered under local of a healthy baby girl. Was able to leave Sanitarium in 15 days.

IMPORTANCE OF VAGINAL DRAINAGE IN PELVIC INFECTIONS.*

By JOHN F. DICKS, M. D.

Pelvic infections present a problem of great interest to the gynecologist. Numerous attempts at classifying these conditions on the basis of etiology, pathological lesions encountered, or clinical course, have all proven more or less abortive. Murphy presents a very elaborate classification based on both etiology and route of infection. Possibly the simplest classification which can be offered is that of—1st, primary Neisserian infection; 2nd, post partal, and 3rd, post abortal infections, the latter two resulting from the invasion of any of a number of micro-organisms. On the basis of such a suggested classification, we may possibly attempt a differentiation of the pathological lesions en-

*Read before Orleans Parish Medical Society, May 22nd, 1922.

countered. In the Neisserian type of infection the organism enters the cervix and spreads by continuity of surfaces up the cervical mucosa to the endometrium and thence to the tube. Here there results a true *intra tubal* infection. As the process advances the frimbriated extremity of the tube closes and the termination is commonly a well defined collection of pus within the tube itself—the typical pus tube. From the tube, infection may spread by contiguity directly through tissue spaces to the ovary, in which a tubo-ovarian abscess results. In a few cases the infection is so overwhelming that sealing of the frimbriated extremities of the tube does not take place readily, and organisms traverse the length of the tube and reach the general peritoneal cavity, eventuating in a typical peritoneal invasion.

In the postpartal and the postabortal types the pathology is very probably entirely different from that outlined above. Here we are dealing with an extra-tubal infection, the invasion being primarily outside of the tube, usually having its origin in the cervix or lower uterine segment. We must remember that this lower uterine segment is the lowest resistant portion of the uterus to infection, this being due to its vascularity and to the numerous lymph channels which radiate into the broad ligament. During delivery or following an abortion the cervix is traumatized and organisms are introduced; they spread rapidly along the lymph channels between the layers of the broad ligament, and the termination is often abscess formation within the folds of the broad ligament. This comprises the *true* pelvic abscess. This form of abscess generally has no relation to the tube, though it has the same pathology as an abscess in any other part of the body.

Considering the treatment of pelvic inflammatory conditions, we find that the Neisserian or intra-tubal type responds readily to the *rest plan*. Rupture rarely occurs spontaneously. Absolute rest in bed, hot douches, ice cap to abdomen, and liquids freely are indicated. The pain and temperature subside, the condition becomes localized and surgery can be resorted to eventually. It is well to say here that there are four cardinal laws that should be followed before doing an abdominal section for Neisserian infection.

1. The pain and tenderness must subside.

2. The temperature must be normal at least two weeks before operation.

3. There should not be a rise in temperature after a vaginal examination.

4. The total leucocytes must be normal.

The longer the patient rests the easier the surgical procedure and the subsequent recovery of the patient.

Many patients with the *extra-tubal type of infection* will respond nicely to rest and the above described plan of treatment, but there are a few that do not. These few are the ones which prompt me to present the subject of pelvic infection for discussion. In these cases the pain continues, the temperature rises, and the patient loses ground, presenting the typical picture of sepsis. Vaginal examination will reveal a large fluctuating mass in one side of the cul de sac. Abdominal operation would avail nothing. The only thing that would be accomplished by such a procedure being the opening of the broad ligament and spilling the contents of the abscessed cavity into the general peritoneal cavity. If left alone there is one of two things that will happen. Either the abscess will rupture into the vagina or rectum, or it will rupture into the peritoneal cavity with the usual fatal result. *It is in such cases that vaginal drainage may be a life saver.* The technique is simple and many a life may be spared if the type of infection can be recognized and a vaginal drainage done instead of entering the abdominal cavity from above. There are a few points in the technique of importance, and I think it would be of interest to bring them out here. The cervix is grasped with a volcellum and drawn down as far as possible. A transverse incision is made in the vaginal mucous membrane just below the cervix, in the mid-line, a knife being used. It is important to keep in the mid-line in order to avoid the uterine vessels and to only use a knife in sectioning the mucous membrane. Now, with a pair of blunt scissors or with the finger, tunnel up toward the bulging mass and rupture it. A rubber drain is then inserted into the cavity and left *in situ*. We have long since abandoned the custom of irrigating, for fear of spreading infection. The important points in post operative care are to

elevate the head of the bed and see that the drainage tube does not become occluded. It is well to allow the tube to remain in place until all drainage has ceased and the temperature has subsided for a few days.

The symptoms of a ruptured pelvic abscess are typical: the onset is sudden, there is violent abdominal pain, rigidity, nausea, vomiting, a rapid drop in temperature and a rise in pulse rate. Death usually occurs in 12 to 24 hours. The following report of a case of rupture of a broad ligament abscess should emphasize the importance of drainage.

White, female, age about 38. Admitted to the ward May 11, 1920. Because of her inability to speak English and no Spanish interpreter being available a complete history was not obtained.

Her appearance was that of one who had had temperature for some time, with mucous membranes pale and lips parched. Aside from this fact she was a robust specimen weighing about 190 pounds, stocky, with an abdominal wall about two inches in thickness.

Palpating the abdomen, a mass reaching nearly to the umbilicus was felt. There was some rigidity and pain on deep pressure. Vaginal examination revealed a large mass filling the posterior cul de sac, above which could be felt a hard mass about the size of a clenched fist, probably a uterine myoma. *At no time during the examination did the patient appear to be seriously ill.* Her temperature was 101, pulse 92, no nausea or vomiting and no indication for surgical interference.

About twelve midnight the patient began to complain of severe abdominal pain. But the nurse did not consider it serious and the intern was not notified until 1 A. M. He called me at once, and I reached the hospital in 30 minutes. The woman's condition was practically hopeless, her radial pulse being imperceptible. She was cyanosed and her abdomen was distended and rigid. It was thought best to give her a chance. She was taken to the operating room and hypodermoclysis was started. The abdominal wall was then infiltrated with Novocaine, and a few whiffs of ether given. When the cavity was opened pus rushed out and the patient died on the table. The abdomen

was not further investigated in the operating room because of the large amount of purulent material. A partial autopsy was obtained the next morning, and revealed a large true pelvic abscess, originating in the broad ligament; the left tube and ovary were acutely inflamed but there were no evidences of a tubo-ovarian abscess. The posterior surface of the broad ligament had ruptured and pus had entered the peritoneal cavity. As I stated before no history could be obtained from this patient but we feel sure from the pathology that this was a post abortal or post partial type of infection.

Had this patient been drained vaginally before the rupture I believe her life would have been saved.

DISCUSSION.

Dr. F. T. Brown: I think Dr. Dicks should be congratulated for his most interesting paper on pelvic drainage. We all should practice more conservatism in these pelvic infections.

In acute cases they should be rested up from 10 days to a month, and examinations and blood counts made weekly. If we find a bulging mass by vaginal or rectal examination, an exploration should be made with aspirating needle of large size. If pus is found we should make a good big opening and use large rubber tubes for drainage, as Dr. Dicks states, and do a second operation later if necessary.

Dr. E. D. Martin: The word "importance" can well be emphasized, for though there is nothing new to be said, it is just as well to discuss a paper of this kind occasionally, and Dr. Dicks deserves the thanks of the Association for going over the matter so thoroughly. Those of us who have had experience with pelvic inflammation know the importance of the subject and realize that the differential diagnosis is, after all, one half of the treatment. In the case of pyosalpinx, we have learned today that rest and an ice bag to the abdomen, in acute cases, will give better results than operation. In fact, not long ago Dr. Clark, in looking up the statistics of the subject at the hospital, found that the mortality was high in those wards where immediate operation was resorted to. So strongly was this emphasized, that the white patients now have a cooling ward, as it is called, for the purpose of allowing them to pull through the acute stage, until such time as these pus tubes become thoroughly sterile, when an operation can be done with little risk. The broad ligament abscess which so commonly follows abortions must be dealt with through the vagina, and I do not believe it is always necessary to wait until we have fluctuation to drain. As soon as a mass can be felt in the posterior cul de sac, the method of drainage suggested by Dr. Dicks may be used. Dr. Brown stated that in some of these cases he had difficulty with drainage, as the tube would come out and it was necessary to reinsert it several times. This could be obviated by the use of a T tube, the cross pieces being long enough to go well beyond the edges of the opening in the vagina. In addition, I would like to add to this two strips of iodoform gauze packed on either side of the tube for several days, which I believe is a decided advantage.

Dr. F. R. Gomila: Dr. Dicks' paper was very timely and one that deserves a great deal of consideration, especially from the viewpoint of the comfort of the patient. Dr. Dicks deserves credit for bringing such a paper before the Society at this time.

However, in mentioning the modes of infection he omitted mentioning another type of infection which occurs by migration of organism through the intestinal coats into the peritoneal cavity, causing an inflammatory condition to follow.

This is very well brought out in cases of appendices where the organisms have penetrated the coats of the intestine causing abscesses resembling very much the pelvic abscess and so diagnosed. Yet the abscesses are truly appendiceal in character.

The method of treatment could not be improved upon except in doing colpotomies. Should you ever get blood it may mean an ectopic gestation and not pelvic abscess; I know of two such cases which occurred very recently. Where colpotomy was done in one case, blood escaping, nothing further than "packing" was instituted; the patient consequently had further trouble from the ectopic gestation and was operated on. Her condition was so bad, however, she did not survive after the proper treatment for ectopic gestation.

I might mention here the possible reason for the greater natural resistance of the female over the male pelvis. I do believe that the reason for this lies in the fact that the female pelvis communicates indirectly with the outside, which is not true in any part of the peritoneal cavity of the male. This explains why the female pelvis can stand so many abuses and infection.

I wish to again state that Dr. Dicks should be complimented for his excellent paper.

INTRAVENOUS INJECTIONS OF AN ORGANIC CALCIUM SALT IN THE TREATMENT OF TUBERCULOSIS.*

By Dr. J. P. LOBENHOFFER.

You will perhaps remember that some few years ago there appeared brief notices in several journals that Prof. La Monaco, Rome, had treated a number of cases of tuberculosis with intravenous solutions of cane sugar, getting gratifying results. No detailed description of his method has ever appeared in the scientific journals and this line of research seems to have been dropped again, probably owing to the stress of the world war. A letter of inquiry to the Pharmacological Institute of the University of Rome has remained unanswered. But La Monaco's work seemed to reopen the old controversy of the utility of cal-

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cium in the treatment of tuberculosis, for it was apparently based on the greater solubility of that element in carbohydrates of the pentose, hexose and heptose groups. It appeared to the writer to be worth while to investigate this question more closely, especially as Mandl, an Austrian, reported about the same time very satisfactory results from Intravenous Injections of Calcium Chloride in the treatment of intestinal tuberculosis.

Much has been said and written, both pro and con, concerning the therapeutic efficiency of calcium in tuberculosis, but no really conclusive evidence has been brought forward on either side. During the spring and summer of 1918 the writer began therefore to look more closely into this question and to devote such time as he could spare from other duties during those stirring days to the study of the efficiency of calcium solutions in tuberculosis.

One of the chief obstacles in the therapeutic use of lime has always been the lack of solubility of most of its salts, and La Monaco's work pointed to a way out of this difficulty. Why could not some of the alcohols of the hexose and heptose group be used as carriers? They had recently been used by industrial chemists for the same purpose and had been found useful. Permit me to present to you the theoretical considerations and some of the results obtained during this work. Owing to the chronic nature of the disease and the comparatively short time, I have no very long series of definite cures to lay before you, but I believe the prospect to be favorable, as the treatment to be outlined quite closely resembles nature's own method of healing tubercular lesions.

It is scarcely necessary to recall here that Naegelis' assertion concerning the frequency of spontaneously healed tubercular lesions in bodies reaching the autopsy table has been confirmed again and again. Nature employs two reactions for this spontaneous healing, first a biological or tissue and immunity reaction and, secondly, a biochemical one. The tissue reaction consists of the formation of epithelioid, giant and connective tissue cells with a round cell infiltration, the whole being known as a granuloma. The immunity reactions resemble those of other infections and consist of antitoxin, bac-

teriolysin agglutin, etc., formation. The biochemical reaction is mainly a process of calcium deposit.

Our efforts at actively treating tuberculosis have chiefly been directed towards increasing the first two reactions by the administration of tuberculin X-ray and light treatment, etc., or to simply treating the symptoms as they arise. The morbidity and mortality figures show that the results have not been uniformly satisfactory. Only little work has been done towards stimulating the biochemical reactions. It has been considered preferable to favor spontaneous healing by putting the patient at rest, decreasing pulmonary effort as much as possible by supplying him with a maximum amount of fresh air and by feeding him abundantly. From time to time attempts were made to introduce an additional amount of calcium by mouth, but no clear-cut results were obtained. Still, several facts pointed towards rather close connection between the biochemical and the biological reactions. Hamburger and Hekma (*Biochem. Zeitschrift*, Vol. 9, Pg. 275) showed, for instance, that calcium stimulates the leucocytic functions considerably, and especially the lypolytic function of the round cells, which it increases as much as 22%. This throws some additional light on the round cell infiltration of fresh tubercular lesions. We need but to remember, that the tubercular bacillus possesses a rather thick fatty envelope, to understand why the lymphocytes secreting their fat dissolving tipase are attracted to the lesion. If we therefore find a way to increase the biochemical reaction or rather the amount of calcium reaching the lesion, we exert a favorable influence on at least one of the biological reactions. But first we had to determine how the lime salts reach the tubercular lesion and how they are deposited in the tubercular lesion.

During the process of tubercular infection an amino acid called tuberculosamin is found, which resembles creatin in its structure, containing like the latter two amino and one imino groups. Another similar acid, called chonorosamine is found in bone cartilage and is now thought to act as a catalytic agent in the deposit of mineral salts during bone formation. These amino acids, while not possessing the same reactivity as the mineral and many organic acids, are still able to ionize loosely bound salts of "organic" acids. We shall see directly why stress is

laid on the word "*organic*." Tuberculosamin seems to be a metabolic product of the tubercle bacillus, as cultures on artificial media show traces of its presence. It was always found in the infected tissue of control animals. When it reacts with an organic salt of a base, as for instance calcium, it does not combine with the nascent base, as it is like all acids of this class only weakly reacting, but the base combines with the much more active CO₂, to form a bicarbonate or with a phosphoric acid radical to form a phosphate. These are the salts which we find deposited in the tubercular ulcer which has healed spontaneously. We shall revert to this point later.

The next step in this investigation naturally concerned itself with the origin of the calcium thus found in the healed tubercular focus. How and in what form was it carried there? We know that the blood normally contains about 10 milligrammes calcium in 100 C. C., mainly in the form of phosphate and chloride, the so-called blood calcium. This small quantity plays an important part in the formation and function of the ferments of coagulation, but it certainly is not available for furnishing the material used in healing tubercular lesions. A far more extensive deposit is found in the bony frame. But here it is in the form of insoluble salts in firm inorganic combination. Tuberculosamin on the other hand, the catalyst, if you please, which sets the base free, does not possess enough reactivity to break up such firmly bound inorganic combinations. One must therefore admit that the inorganic salts of the blood stream and of the bony frame are a very unlikely source of the material used. Numerous direct investigations have borne this out. To mention only one, let me call attention to the work of Halverson Mahler and Bertein (*Journal A. M. A.*, May 5th, 1917). They examined the calcium content of the blood in a series of cases of tuberculosis picked at random from the wards of Jefferson Hospital in Philadelphia and found only very insignificant changes from normal.

The question therefore arose if they were not some other sources from which the body could draw the lime. In this connection, the so-called food calcium at once presented itself for consideration. Let us take as an example that article of diet richest in that element, milk. Although today not so much

stress is laid on it as a prominent ingredient of the diet of the tubercular as formerly, it and its derivatives are still looked upon with favor on account of the high number of calories it represents. But it is not only its nutritive value but also its richness in Ca which makes it valuable, for it contains a relatively large amount of that element, chiefly destined to serve as building material for the bony frame during the first independent period of life. Let us consider this point for a moment. At birth the skeleton consists, of course, mainly of cartilage with certain centers of ossification; the actual mineralization occurs only later. Milk being the only food provided by nature for the young of any species of mammals, it must necessarily contain the mineral salts needed for the development of the bony frame. Lime, while not all, forms a large part of the salts. Cow's milk for instance contains normally about 1 gramme of Ca per liter, human milk a trifle more. While discussing the Ca content of the blood a few minutes ago, we have already seen the comparatively slight solubility and the small quantity of the lime salts in that fluid. The question now arises, why the milk should be able to contain ten times more Ca than the blood, when it is secreted by glands which receive their raw material from the blood and lymph vessels, and why the lime should be so much more soluble in the milk. Here we have the crux of the whole problem. The answer lies, as already indicated, in the greater solubility of Ca in the presence of certain carbohydrates (lactose in the case of milk), with which it can under certain circumstances even enter into direct combination to form organic compounds. While the different chemical combinations which the lime undergoes from the time of its entrance into the mammary gland up to its absorption into the body have, to the writer's knowledge, not yet all been definitely cleared up, it is well known that it does not form an inorganic chloride with the HCl of the stomach, but that during the curd formation it combines with the nucleinic acid group of the casein and passes with the paracasein into the small intestine, where it is absorbed as a soluble neutral tribasic salt.

We have thus in the food Ca an ample source of lime in organic combination not so firmly bound that it cannot be decomposed by the amino acid present in the tubercular lesion, and ready to be utilized in the natural process of healing. Knowing

the process nature employs in the biochemical reaction of spontaneous healing, could we not imitate her method and find an organic calcium salt, easily soluble, with loosely bound anion, readily separated by the mildly reactive amino acid, and which could be introduced directly into the circulation, preferably intravenously?

As already indicated, the carbohydrates of the hexose and heptose group were our most promising material. Lactose was of course the first choice. But for a number of reasons, especially its somewhat unstable composition, it was soon found to be unsuitable. Experiments with saccharose also showed several undesirable features of the resulting compounds. Glucose was next tried as a carrier for the lime. Here the results were much more favorable. This alcohol of the hexose series had frequently been used intravenously in solution of 33% and over; so there was no reason to fear toxic results. A number of combinations were tried out on various animals and it was finally determined that by oxidation an easily soluble Ca salt could be formed which corresponded in its essential properties to the salt absorbed from the small intestine. A 20% solution was well tolerated by rabbits at the rate of 0.4 grammes of the salt per kilogramme of body weight provided the solution was given slowly. This amount would be equal to 24 grammes for a man weighing 60 kilo. Each molecule of this compound contains 9.3% of elementary Ca loosely linked to a combustible anion. After the liberation of the base the latter can be utilized by the body in the same manner as the other carbohydrates of this class.

A series of experiments was carried out on guinea pigs, dogs and rabbits and later on on man, which showed that a 5% solution in distilled water was most satisfactory, also stronger solutions were fairly well borne, too. A long series of injections so far given by myself and others failed to show any alarming symptoms. In the last few months, a few reactions have occurred which were apparently caused by changes in the H-ion concentration of the solution after standing a few hours. This has been overcome by using only very fresh solutions. We are now engaged in preparing buffer solutions as suggested by Siagle of Rochester, Minnesota, to avoid these changes. At first, a few patients described a few peculiar sensations of heat commencing

in the mucous membrane of the mouth and extending occasionally over the entire surface of the body, but disappearing after a few minutes. Other observers mention a similar heat wave following the intravenous use of Ca Cl_2 . Our first human dose was in the beginning 50 c. c. of the 5% solution. This was followed in a few days by 60 c. c. then 80 and several doses of 100 c. c. each. Later on it was found that we could begin with 100 c. c. in adults increasing the following doses to 150 c. c. Even 200 c. c., representing 10 grammes of the dry salt, was repeatedly tolerated without difficulty. While the high solubility of the salt permits many variations in the concentration, the 5% solution, which is almost isotonic with the blood, is the best. I would like to call your attention to the fact that the 150 c. c. dose contains about half as much Ca as the entire blood stream yet there is no change in the coagulability. This is additional proof that the salt we use is not changed into an inorganic one when entering the blood stream as only the latter can influence coagulation. Even twenty-four hours after the administration of 150 c. c. the same results were observed.

Now how is this supply of organic Ca utilized by the body? A check up of the various secretions shows no abnormal increase of Ca eliminated within twenty-four hours after its administration. It is evidently disposed of in the same way as the food Ca absorbed from the small intestine. When it comes in contact with some substance it can react with, as for instance the tuberculosamin of a lesion, there occurs a decomposition of the salt. But the nascent Ca does not react with that feeble anion, as we have seen, with the much more active CO_2 to form a carbonate or bicarbonate, or with a phosphoric acid radicle to form a phosphate. The proof you say? Van Slyke in his classical work on acidosis has shown very strikingly that all tissues of the body contain CO_2 in sufficient quantities and tension to combine with all cations not firmly bound. The resulting salts are mostly bicarbonates. And does not this form of Ca represent an appreciable part of the material used in spontaneous healing? And how about a phosphate? While the complete ever changing chemistry of intravital metabolism is not yet known in all its details it is certain that the protein molecule in splitting up continually liberates phosphoric anions which readily combine with the nascent Ca cation to form the corresponding salt. In

this connection it may be of interest to quote some remarks recently made by Prof. Starkenstein of the University of Prague who has published a long series of observation on the chemistry and pharmacology of calcium. In one of his late publications which appeared last September in "*Therapeutische Halbmonat-shefte*," he discusses, among other things, some experiments made in Stransky's laboratory in Vienna and says: "The therapeutic activity of calcium does not depend so much on the quantity introduced as on the anion of the salt used. Salts with combustible anions are converted into carbonates and phosphates with combustion of the anion." The salt we are using exactly fits this description.

And now what have been the practical concrete results of this treatment? The writer does not propose to make the mistake of looking for miraculous results and does not imagine that we can build up a wall around an extensive lesion and get a clean-cut separation of diseased and healthy tissue with a few intravenous injections. In dealing with a disease like tuberculosis, in which the patient is subject to so many variations and which so often heals spontaneously, differences of opinion must always exist. He and others have treated a number of patients in this manner with gratifying results, but the 200 cases so far observed are hardly sufficient to give a picture clear-cut enough to arrive at final results. Several patients who received the injections when almost in extremis have since died, though even they showed a temporary improvement, consisting of a decided drop in the temperature curve, a decrease of the distressing cough and a noticeable diminution of the number of the bacilli.

The injections were first tried on 14 guinea pigs and eight rabbits. They were inoculated with the sputum from several tubercular patients containing large amounts of bacilli. When they began to show distinct symptoms of the disease consisting of increase body temperature and loss of weight, they received a number of injections of the Ca salt. Several of them were killed at varying periods after the treatment; the control animals perish of tuberculosis within nine to eleven weeks after inoculation, which demonstrated the virulence of the material used. They showed tubercular foci in the lungs, glands and intestine.

The treated animals showed similar lesions. One pig even had a diffuse meningitis which was distinctly tubercular. The first evidence of healing was found in two pigs after the third injection; there was an irregular deposit of Ca in and around the connective tissue cells surrounding the lesion. With hæmatoxylin-eosin staining the deposit appeared as dark blueish spots with irregular outline. The guinea pigs and four rabbits which received eight injections of three hundred milligrammes per 100 grammes of body weight each apparently recovered. Two pigs killed three months after the last treatment showed healed lesions in the mesenteric glands and one of them had two healed foci in the right lung. One pig, however, after apparently doing well up to the sixth injection, began to refuse food and was found dead in its cage one morning six days after the last injection.

Unfortunately the attendant disposed of it in the absence of the technician without a postmortem being made.

The first patient submitted to the treatment was a young white man, R. B., age 26, with advanced pulmonary tuberculosis. He had heard of our work and begged to have the treatment tried out on him, as his family physician had told him that he had only a few weeks to live at best. The upper left lung was almost entirely honeycombed, he had had several hemorrhages and his breathing was quite rapid and shallow. I refused, of course, explaining that nothing short of a miracle could replace destroyed lung tissue and that I could not see what could be gained by simply experimenting on him. He and his mother and sister insisted however and I finally consented, figuring that it would be a good opportunity to find how much of the organic lime salt a man in his condition could tolerate. He received an initial dose of 50 c. c. of the 5% solution, followed by three more of 60, 80 and 100 c. c. each at intervals of ten days. I am not prepared to say that the patient would not have done as well under glucose injections, but was greatly astonished to see that he gradually improved. His evening temperature fell from 103° to 100.4°, his appetite increased, the respiration became fuller, he even gained a little and felt much better. The writer was then called into the government service (it was October, 1918) and thus was unable to follow the case up, but he was

told that the patient was again able to partly resume his duties as a switch tender, but died of pneumonia in January, 1919, during the second flu wave. Nobody seems to have taken enough interest in the case to hold a postmortem, so it is chiefly of value, because it demonstrated that even advance cases of phthisis pulmonalis rather large doses of organic lime can be given in this manner without deleterious effect, and even with benefit.

During the summer of 1919 the experiments could be partly resumed. The first case treated during this period was Mrs. W. B., age 28, who was found with a well developed case of pulmonary tuberculosis, many organisms being present in the sputum. She received a total of seven injections, the first one consisting of 100 c. c., then six of 150 c. c. each, making a total of 1000 c. c., or 50 grammes of the organic Ca salt. Having had the case under continual observation I know that she had no other medication whatever outside of enough quinine to control an attack of tertian malaria which developed during the latter part of the treatment. During the first two weeks the patient was kept in bed, after that she was allowed to sit up and sew and perform light household duties. After the first injection, her temperature dropped from 102.8° to 101° and was 100.5° two days before the second treatment. The absolute rest in bed may have contributed to this drop. After the third injection, the temperature curve had flattened out to 98.2° - 99° , the bacilli disappeared from the sputum and the body weight steadily increased. An acute malarial infection about the end of September was easily controlled and did not seem to interfere with the favorable course of the case. In February of 1920 she had gained 14 kilogrammes over her weight in August, 1919, and was able to perform all duties connected with the household comprising her husband, his brother and four children without special fatigue. An X-ray plate taken at that time showed an oblong shadow in the upper part of the right lung pointing downward and outward. The sputum was frequently examined, from the fourth treatment on it was always negative. When last seen the patient was still doing well and maintained her improvement.

Another interesting case of this series was that of M. H. F., age 42, and highly intelligent, but correspondingly choleric and

crabby jurist, who suffered from milliary tuberculosis complicated by chronic tertian malaria and a chronic B. coli cystitis and pyelitis with a rather irregular heart beat. He was greatly emaciated and quite unable to follow his profession. Not much was expected from the treatment in his case, as he declared that "he had been carrying the blasted bugs around for twenty years." He was given the treatment indicated for the complications and also a series of injections of the lime salt on account of the cardiac arrhythmia, we divided each dose into two parts, giving one-half on the first and the rest on the second dose. This was not really necessary, as the pulse always became fuller and more regular during the injections, but it was kept up on account of the irritable and sensitive condition of the patient; he received a total of eight doses, which were gradually increased to 180 c. c.,—90 c. c. each day. He improved slowly and within two months he could reappear in court and work most of the day in his office without excessive fatigue. The number of tubercular bacili in the sputum decreased slowly, but they did not disappear altogether until after the sixth treatment. It is worth while mentioning that at first they were found all over the slide, but as the case progressed the free organisms disappeared and only a small number of intracellular ones were seen incapsulated in small mononuclears.

Another series of cases included only patients suffering from surgical tuberculosis. Here some quite striking results were obtained. A typical case was that of a commercial traveler who had been laid up with a fungus. For three months before he was seen, he was an inmate of the City Hospital of B. and had had all kinds of treatment, including passive hyperæmia, X-ray, heliotherapy, etc., without any benefit whatever. There was much swelling of the joint, complete loss of motion and severe pain below the knee requiring medication to allow him to sleep. His condition was progressively becoming worse. On June the 10th, 1921, he received the first treatment consisting of 100 c. c.; after the third treatment he left the hospital and went home, greatly improved. He returned for the fourth injection and showed continued progress, the swelling had gone down to about one-third the size, there was complete freedom of motion and absence of pain below the knee. He went back on the road about a week later and did not return any more; in fact nothing was

heard of him after that—he even forgot to send the check. In the adjoining bed was a patient with a tuberculous arthritis of the left wrist who showed similar good results. But I will not take up your time with enumeration of cases which would only mean a repetition. If the treatment is of value, and I believe it is, it will soon take its proper place in the treatment of tuberculosis; if not, mere words will not make it so.

Not much need to be said about the technique. The usual gravity apparatus of the simplest possible construction is the best. The use of warm saline solution to begin and end each treatment assures accuracy of doses. A small gauge needle should be used as it is quite essential to give the solution slowly. If so used no symptoms are noticeable even with 150 c. c. and over; if it is given too fast on the other hand the heat wave may be felt and nausea may develop.

In conclusion, the writer would repeat that a number of cases so far treated and the time they have been under observation are not yet sufficient to form a final opinion of the pertinent value of this treatment. He believes, however, that it is a step in a direction which will lead to good results. At all events he has demonstrated that in this form much larger doses of Ca can be given without harm than had been supposed. Ca has been given parenterically by several research workers, but nobody has paid much attention to the anion of the salt used. Five c. c. of Ca. Cl-2, in five per cent solution has been so far the maximum given. The introduction of inorganic salts to stimulate the biochemical and through it the biological reaction is useless, for they can not be ionized and utilized for the formation of other compounds. Nature has shown us how she deals with tubercular foci, but she uses organic compounds in the process of spontaneous healing.* The writer has intended to find a similar salt through which as large a quantity of Ca as possible could be introduced directly into the circulation without causing undesirable effects. He has been permitted to glimpse into the wonderful workshop of nature, our great teacher, and has tried to imitate her methods.

*This process usually takes the form of fibrosis, complete calcification being the exception. But all fibrosed foci show some areas of calcium deposit. Calcium exerts a favorable influence on healing by stimulating round cell infiltration, especially the lipolytic and phagocytic functions of the small mononuclears.

DISCUSSION.

Dr. Wallace J. Durel: Since I first attended the meetings of the National Tuberculosis Association in 1906, the use of Calcium in Tuberculosis has been repeatedly discussed. However, the value of Calcium in Tuberculosis remains a doubtful question.

In the cases cited, the Essayist seemed to lay special stress upon the fact that "Spontaneous healing in Tuberculosis is favored by the intravenous administration of Organic Calcium."

This assertion should be made reservedly, for no one has given any proof that such is a fact. Autopsy findings verify beyond question, that healing of tubercles and tuberculous ulcerations occurs chiefly by fibrosis, and that calcification plays only a minor part in the permanent healing of tuberculosis.

Calcified areas in a healed lung comprise but a small percentage of the healed tissues; and then, calcified areas unfortunately too frequently embody caseous material with virulent tubercle bacilli.

Therefore, calcification is not Nature's ideal process of healing in tuberculosis, but fibrosis, acquired by the stimulation and proliferation of the fixed tissue and leucocytic cells, should be our main objective in attaining a permanent healing of tubercles and tuberculous ulcerations.

In the cases cited by the Essayist, he did not say whether the skiagraphs taken showed more extensive areas of calcification in the lungs of the cases treated with intravenous injections of Organic Calcium, than the cases not treated with calcium.

Relative to the improvement of said cases, that is, the gain in weight, fall of temperature, etc., he does not state whether this improvement was more marked in his cases than in the ordinary case treated by the hygienic-dietetic treatment.

Spontaneous healing often occurs when we least expect it. We have recently discharged from the Breau Building (Charity Hospital) an advanced tuberculous whose lesions healed spontaneously, and we cannot ascribe any definite reason for this healing.

As was stated in the previous paper and also at the last meeting of the National Tuberculosis Association, the deposit of Calcium in the lungs of animals treated with excessive doses of calcium did not exceed that of animals fed with ordinary food calcium.

The Essayist should be encouraged in his present work and I do hope he will give us, in the near future, a more tangible evidence as to the value of Calcium Intravenously in the treatment of Tuberculosis.

Until there are sufficient proofs and post-mortem findings showing that Calcium hastens the process of healing of tubercles and tuberculous ulcerations, we should approach the matter conservatively, and restrict its use, at present, to the experimental field.

ACUTE INFECTIONS IN THE SPASMOPHILIC CHILD.*

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The condition of spasmophilia has been recognized for a good many years and has formed the subject of much research both here and abroad. To the investigations of Erb are we indebted for an exact quantitative estimation of the condition by means of the electrical excitability of the peripheral nerves.

It is well at the outset to bear in mind that the so-called Spasmophilic Diathesis comprises two groups of cases, viz, those manifesting, in addition to the increased electrical irritability, convulsions, carpo-pedal spasm, Chvostek and Trousseau's signs, laryngospasm and pylorospasm, for which the term tetany is reserved, and those presenting the signs but not the symptoms: increased electrical excitability, Chvostek's sign and possibly also Trousseau's sign. This last group we call spasmophilia.

It is generally agreed that infants under two years who show the Erb's electrical phenomenon, Chvostek's and Trousseau's signs have tetany. Such infants have a disturbed calcium metabolism as shown by a negative calcium balance and a lowered blood calcium. In the consideration of the older child we are lost in a maze of dispute. Some investigators, notably Stheeman⁽¹⁾, have claimed that children of five or six years who show Erb's phenomenon, with or without Chvostek's sign, are subject to various gastro-intestinal disturbances, instability of the central nervous system, petit mal, breath holding spells, absences, etc. Others do not believe that the electrical reactions which are characteristic of spasmophilia in infancy can be interpreted as such in older children and adults. Sedgwick⁽²⁾ on the other hand, assuming that the spasmophilic reactions of the infant could be translated to the adult was able to demonstrate such reactions in the parents and grandparents of infants with tetany. This raised the question of heredity and familial tendency.

Altho Sedgwick's work was criticised on the ground that nothing is known with regard to the reactions of older children and adults, and he was therefore not justified in his assumption, nevertheless, we see spasmophilia most frequently in children of

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neurotic and high-strung parents who very frequently exhibit Chvostek's sign and in whose homes excitement is apt to prevail.

Two years ago I⁽³⁾ studied a group of children in an institution in the north between the ages of 2 and 7 years and found that over 60% of them gave electrical reactions characteristic of spasmophilia. Very few of these manifested any gastro-intestinal disorders, petit mal, enuresis or Chvostek's sign. Blood calcium studies in these children showed no variation from the normal. Young infants, however, do have a reduced blood calcium when their electrical irritability is increased, as shown by Howland and Mariott⁽⁴⁾ and others.

From the close observation of infants over a period of a year or more in the institution I was able to ascertain the following events: One infant, entering the institution at the age of 2 months, had convulsions and laryngospasm one month later. At the age of 5 months the electrical reactions were very definitely spasmophilic, the c. o. c. being 2 ma. At this time the blood calcium was 8.8 mg. per 100 c. c. plasma. There were no symptoms of tetany. During the late spring this infant, then 7 months old, developed a slight cold with temperature of 100 to 101 degrees F. It immediately had a convulsion and laryngospasm. A year later this child appeared to be perfectly normal in every respect and the electrical reactions did not show spasmophilia. Upon developing another cold with fever the child became spastic but had no convulsions. The electrical reactions showed spasmophilia.

Such a sequence of events throws a good deal of light on the many cases of acute infections that we see in private practice, which are accompanied by mild convulsions, twitching of various muscles, crowing inspirations, etc.

I recently saw a boy 2½ years old suffering from an acute attack of grippe. The temperature was 103 and the parents became much alarmed when he suddenly had convulsions early one morning. I was able to elicit Chvostek's sign but no Trouseau. The electrical reactions we unfortunately could not determine. This boy had never had convulsions before.

As to the treatment of those cases, a good deal depends upon the management of the parents and the home, but we see at

once that it is a difficult matter to overcome neurosis in the mother. However, by duly impressing the parents with the fact that the child even at 2 years has a great deal of intelligence, can understand what is being said about it and that therefore its ailments should be discussed in another room, much can be accomplished toward quieting the child and especially in preventing the development of neurosis in later life. For the immediate relief of the convulsions nothing works so well as chloral hydrate given by rectum. To a child of 2 years ten grains may be safely given. These cases have a lowered blood calcium and we know that this can be raised by the administration of calcium by mouth. Perhaps the best form of calcium to use is the calcium bromide in 5 to 10 grain doses every three hours. This may be combined with a little sugar of milk. It should not, however, be given in combination with soda bicarbonate, for the Ca ion and the Na ion have an antagonistic action. Several observers, particularly Marriott have reported the development of active tetany after the administration of large doses of soda bicarbonate to infants, in whom an acidotic state was changed to one of alkalosis.

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DISCUSSION.

Dr. J. Signorelli: When considering the subject of Spasmophilia we should not lose sight of the fact that we are dealing with a nervous system—central and peripheral—which is below par in the matter of stability and resistance. As the essayist has brought out, the influence in these children is not that of the Spasmophilic Diathesis upon the infectious disease, but rather conversely in a sense, the effect of the acute infection upon a non-stable and irritable nervous system whose resistance is so low that the convulsive seizure results. Indeed these children are known to be "susceptible" to frequent convulsive attacks upon the slightest cause.

Surely, while heredity may have only a lesser part in the existence of a Spasmophilic Diathesis, environment and diet play a marked and direct part.

As to the treatment of these seizures, the method or management whether occurring in conjunction with an infectious disease or independently, is first to obtain relaxation, and that as quickly as pos-

sible. For this we should employ what is most often nearest at hand, and than which nothing is more efficacious, namely: a hot bath; the bowels should next be cleared by clemata; and then, sedatives, such as chloral hydrate and bromides administered.

Let us bear in mind, though, that this is merely emergency management, and not curative treatment. For the cure of the Spasmophile tendency there is required proper dieting and the administration of Calcium for the correction of its deficiency as brought out by the essayist. This need not be furnished in the form of Calcium Bromide, but any of the other salts of the drug. I employ the Lactate, Chloride or Bromide of Calcium, but never continue the administration for an indefinite period lest there result from too much of the drug deleterious effects and place me in the position of one treating Acidosis with an alkali in so large a quantity and over so long a period as to change the Acidosis to an Alkalosis. What is required is the maintenance of the proper calcium content of the blood.

I feel that the essayist is to be commended for bringing the subject to our attention in such a form as he has; not giving us so much as to cause confusion of thoughts and yet enough to make us think seriously of the subject.

Dr. Guthrie: Dr. Von Meysenbug voices a modern tendency in the title of his paper. Some of us who belong to a little older vintage are inclined to consider spasmophilia as an evidence of inherited neurosis.

Let me emphasize the importance of the hot bath as an emergency measure. Chloral is probably the best drug we have and can be used by rectum while the child is in the hot bath. In my own experience there is an effect from chloral much quicker than twenty minutes after its instillation into the rectum.

Dr. Von Meysenbug has given us food for thought in expounding the theory of calcium metabolism in these cases. I believe, however, that only a small proportion of these cases will be found dependent on this cause.

Let us never forget the necessity for a very thorough psychologic examination of patient and forebears. Also let us look for a definite flow in calcium metabolism and direct treatment along this line if it exists.

WHY RADIUM IS LOOKED UPON WITH DISFAVOR BY SOME OF OUR PROFESSION.*

By CHAS. H. VOSS, A. B., M. D., New Orleans, La.

Of the large number of therapeutic agents in use today, how many enjoy the distinction of being universally accepted as specific for disease? Among those so considered how many affect a cure? What per cent of these arrest disease or cause a definite improvement temporary or permanent? Radium enjoys this last distinction.

Each therapeutic agent has its champion to proclaim its beneficial properties in combating disease, but the medical profession accepts no such claim without reservation and it is only after due trial by the profession that any therapeutic agent receives any recognition at all. A new remedy grows more popular as increasing numbers of the profession become convinced of its value and are ready to champion its cause, otherwise it soon falls into disfavor and is cast aside. Every new discovery in medicine and surgery must pass through this experimental stage where careful and conscientious work will demonstrate its usefulness.

Radium has gone through this experimental stage. Its usefulness is being demonstrated daily to the satisfaction of both patient and physician. Now the question, "why are there some among our ranks who look upon it with disfavor?"

First I want to ask a few questions about some of our popular therapeutic agents of today. Why are vaccines, with few exceptions, looked upon by some authorities as of little or no value, while by other as great authorities they are heralded as a whole, of immense, if not indispensable value? Why is there such a varied opinion as to the value of the glands of internal secretion in therapeutics? Why do some of our profession hold on to the old regime of starvation in Typhoid instead of the treatment by increased caloric intake, and so on down the line?

1. There are those among our ranks who are biased against new methods and new remedies. This may be due to the fact that there is so much literature on patent preparations distributed among the profession, and almost daily a representative

*Read before the Orleans Parish Medical Society, May 8th, 1922.

drops in the office to tell us of some wonderful new discovery, or some new combination of drugs and of their beneficial effects in the various ailments. Some of them must be wrong. The busy doctor soon tires of the same old story and locks himself up mentally against the new. He has no desire to investigate all this vast amount of literature, consequently any new discovery of value is passed up unnoticed with the many patent preparations and nostrums that are constantly appearing on the market.

2. *Expense.*—Radium is found in very limited quantities and is therefore very expensive. Medical men who invest in radium expect a reasonable return on the money invested, and this makes radium rent for a fair sum. When we consider the results obtained from radium as compared with those obtained from surgery the cost of radiotherapy is really cheaper. The hospital bill, operative risk, etc., are eliminated.

The application of radium is not attended by any dramatic display of skill as is seen when the good operator picks up his scalpel and demonstrates to his audience the wonderful technique which he has developed. The first few days following the operation there is a stormy course, all are anxious. Following the application of radium the reaction is slow. When \$50.00 or \$100.00 is mentioned for the application of radium, often the patient feels like he is being overcharged, and the family physician looks upon the radiotherapist as receiving a sum in excess of services rendered. Is not radiotherapy a specialty? Would you care to be constantly handling radium and being exposed to it? Is there no risk? A quotation from the Memorial Hospital, New York: "Radium in the hands of the untrained is one of the most dangerous forces in the world." Example: radium is not only the therapeutic agent of choice in T. B., adenitis and rodent ulcer, but it is the most economical and leaves no scar.

3. *Over Enthusiasm.*—An energetic and progressive member of our profession listens to an enthusiastic speaker tell of the wonderful properties of radium. He becomes enthusiastic and may buy an interest in some local Radium Clinic. His first patient has extensive carcinoma of the cervix. The cauliflower mass is burned away with the cautery and a 50 mg. tube of radium is placed in the cervix and four or five 10 mg. needles

are buried in the cervical stump and left twenty-four to thirty hours. Hemorrhage stops, odor diminishes, the patient gains weight, the cervix becomes smooth, the patient and surgeon are enthusiastic—I say they are too often “over enthusiastic.” Other cases are treated. Sooner or later an inoperable carcinoma case comes along, it fails to respond as previous cases did due to metastasis or to overwhelming toxemia, and the enthusiasm is diminished. A year passes, a case returns with a recurrence, enthusiasm is gone and the physician doubts if radium is really of much value.

Gentlemen, we must realize from the beginning that radium has its limitations. The leading radiotherapists do not claim that radium will cure all cancers or even the greater percentage of cancers. Statistics show that 12 to 18 per cent. of inoperable cancer of the cervix are alive 5 years after radium has been used, and these are lives that have been saved. Tell the patient or his family the facts. In carcinoma of the cervix radium is the only specific, and in extensive cases it is the only paliative treatment we have, and allows the patient to live comfortably for one or more years. Does this condemn radium? Dr. Howard Kelly of Baltimore made the following statement six months ago: “Radium is pre-eminent in cancer of the face. We can cure (and I use the word cure unhesitatingly after 13 years of experience) 95% of all cases of cancer of the skin and face, if the disease has not progressed too far.” “But radium’s greatest achievement is, that marvelous results are sometimes attained by dissipating all of the accessible disease in cases which are so far advanced as to be utterly inoperable, and radium will often take care of recurrences where surgery is helpless.” My experience certainly bears out the above. Out of twenty-five cases of carcinoma of the cervix, all but two responded promptly to radium and most of them are clinically well today. In twelve cases of skin cancer and four cases of hemangioma, all have responded in a great way. My first case was a skin cancer the size of a fifty cent piece on the back of the neck; he is well today after two years. He is over 70 years of age and actively engaged in a Homestead Association in this city.

4. *Faulty and Careless Application.*—How often has a case of malignancy come to a surgeon or radiotherapist for aid, and been received with the attitude: He is a poor fellow, and then

I can't do much for him anyway. Radium is applied in a half-hearted way—more as a placebo. The case is not studied with proper reference to age, dosage, screening, method of application, etc. No results are expected. If he got a good result it is a pleasant surprise. This is not the scientific application of radium. Give each case the thought and study required or better not apply radium.

5. *Radium Cases Not Selected.*—How often the radiotherapist is asked to apply radium on a case so extensive that he hesitates to even use radium. I am convinced that many cases should not be treated, for using radium under such circumstances is detrimental to the cause of radium. I have seen these cases often turned away at the Memorial Hospital in New York. A patient comes in with his eye or ear eaten away, pharynx filled with extensive growth, cervix, vaginal and rectal wall one mass of malignancy with recto-vaginal fistula, etc. These patients often come expecting to get well; their physician told them radium would cure them. What must we do? We how Mrs. Blank is. What is her chance? Should the radiotherapist greet his friend with a broad smile and a "thank you doctor"? The value of radium as a therapeutic agent, it may be, is at stake in that particular instance. If it fails, the physician, your friend, is convinced that radium has little or no value.

The surgeon must study the properties and therapeutics of radium if he is to get results. Radium and surgery go hand in hand. The application of radium is in most instances a surgical procedure, as for example the burying of radium needles in the breast or cervix, etc. Operation must often follow its application, or *vice versa*. In fact, most of our leading radiotherapists are surgeons; they study its application and the progress of the case thereby improving technique, dosage, etc. I might say right here that X-ray renders valuable aid in certain definite cases. X-ray is becoming more valuable since the advent of the new machines capable of developing 200,000 volts and more with the generation of more penetrating rays.

When radium, X-ray and surgery are all available and in cases where indicated are used together, better results will follow and radiotherapy will gain more favor among the profession. In closing I say give radium a chance in some of your

cases where it is specific and does its greatest good; such as skin cancer, angioma, lymphadenitis (chronic), toxic goitre, metritis, etc., before resorting to the knife. Do so also in the inoperable carcinoma cases and you will see radium produce wonderful and lasting benefit. Radiotherapy has come to stay, and its scope of usefulness is daily increasing.

In a conservative manner I say radium deserves your conscientious consideration.

DISCUSSION.

Dr. Thomas Benton Sellers: Very often we get impatient and do not give radium a fair chance, especially in treating small uterine fibroids and metrorrhagia during menopause.

I recall a case of metrorrhagia in a woman about forty-five years of age, whom we curretted for diagnosis and gave about 900 mg. hours of radium intra uterine. About ten days later a second dose of 1200 mg. hours was given. The hemorrhage stopped for about three weeks and started again lasting several days, but stopped again. Two years have elapsed and she has been perfectly well since.

We should give a general anaesthetic to most of our carcinomas of the cervix, as well as of the body of the uterus so that we can be absolutely sure as to where we are placing the radium. This will cut down the number of rectal and vesical burns. Many members of our profession have discarded the use of radium on account of these burns, not realizing that a large percentage of them could have been prevented if the radium had been properly applied.

Dr. Charles Henry Voss (closing): There has been quite a lot of discussion about the value of the X-Ray in therapeutics. I just want to say that I mentioned the X-Ray in my paper purposely to let you know that I realize there are cases where it is of immense value, more particularly in carcinoma of the breast, for example, where a large area must be covered.

X-Ray has been used in this country for some years in combination with Radium and Surgery, or alone; and if what we read about wonderful things that are being done in Europe is true, and we have no reason to doubt it, then the percentage of cures of Cancer in the future should steadily increase.

With reference to glands, more particularly tubercular adenitis, radium is undoubtedly the agent of choice in these cases and is specific.

In answer to Dr. H. P. Jones in regard to the glandular mass in the neck of a little girl, patient of his, upon whom I used radium, first I want to state that this glandular enlargement followed immediately a case of Parotitis. It has remained the same size for over a year and failed to yield to intensive medication. I told the family before applying radium that I could guarantee nothing since this condition had existed so long that there was a possible calcareous mass in the gland, or possibly the gland had begun to break down. We know that Radium in cases that have gone this far will not cause the glandular mass to disappear, and when we think of the existing pathology, we can easily understand why.

I believe that the fluctuation in this mass is due to caseous and broken down glandular material and should be evacuated.

New Orleans Medical and Surgical Journal

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EDITORIALS.

INEVITABLE.

As a result of the strenuous efforts necessary to taking over the Journal and getting it out "on time," it would have been strange indeed, if we had not been called upon to make a number of corrections, additions or apologies.

In recording the "genesis" of the Journal as it is today, due credit should have been given the Executive Committee of the State Society. It was this committee which authorized the president of the State Society to organize the Journal and prepare for its publication beginning with the July issue. With this idea in view, the Board of Directors was selected and they in turn appointed the staff of editors.

Attention is called to a number of corrections in the editorial staff. In this connection it seems particularly regrettable that the name of Dr. Homer Dupuy should have been entirely omitted as a member of the Board of Directors. This is especially so in view of the doctor's well-known enthusiasm persistently directed toward the acquisition of the Journal for the Society. That the error will be overlooked with characteristic magnanimity, there is no doubt.

Further information reveals the fact that the necessary authority for the selection of the District Collaborators has already been vested in the Board of Editors. The function of these collaborators will be to furnish the Journal with all available material from their respective districts. The list will be announced as soon as possible.

WOMEN IN MEDICINE

In New Orleans the first of July brought with it the emancipation of women to the ranks of Hospital Internes. Both Charity Hospital and Hotel Dieu now number women physicians among their Interne Staff.

The question as to whether certain women with the necessary training and inclinations have the capacity for doing high-class medical work is no longer even debatable. Just as there have been many remarkably successful women in numerous other occupations which were formerly considered distinctly masculine, it was clearly inevitable that the same type of women should prove equally successful in medicine, when the opportunity was afforded them to learn and practice the science and the art. With their natural aptitude and scrupulousness for detail, it followed as a corollary that in certain branches at least they should even excel their masculine confreres. A number of years ago it was the writer's good fortune to work for a certain period of time under Dr. Hurdon at Johns Hopkins, in Dr. Kelly's Gynecological Laboratory. This experience was a revelation. The correlation of symptoms with gross and microscopic pathology, using both as a basis for logical surgical treatment, was presented in such an unusual, unassuming though masterly fashion, as to leave no doubt in the student's mind

concerning woman's ability, not only to acquire but also forcefully to impart, accurate, practical, scientific knowledge.

That women can successfully practice medicine is amply attested to by the number of individuals who are actually doing so not only in New Orleans and the South but throughout the country at large. But looking at the question from a broader, sociological aspect, women in medicine are after a fashion incongruous.

The practice of medicine would seem to preclude maternity and parentage. There can be no question as to woman's individual right to step out of her natural sphere and repudiate the basic function and privilege of originating and developing a fundamental unit for the state in the form of a family. But the exercise of that right seems unnatural and erratic. It would appear more in keeping for women, in the selection of an avocation, to restrict their choice to a field where the requirements and exigencies are less *personal* than they are in medicine.

Of all occupations the practice of medicine is essentially the most personal. It might be said in fact to be almost exclusively personal. The same is true of the rearing of a family, particularly as regards the woman. The maternal influence in the home cannot be delegated any more than can a delicate surgical procedure, even though the obligation in one instance is implied and in the other absolute. Where two interests are so essentially and intrinsically dependent upon the individual, one or the other must suffer. From the standpoint of usefulness to the commonwealth, which stands out most prominently, the female physician or the mother of a family?

MEDICAL LEGISLATION

Much criticism has been heaped on the Legislature because of the paucity of constructive legislation enacted at the last session. However, there have been several redeeming features, chief among which stands their action on legislation relating to medicine.

The Chiropractic Bill was defeated in Committee by unanimous vote. This is evidence of the fact that our legislators are

willing to be guided by unvarnished facts, and that our profession must be prepared to furnish these when occasion arises. The physician in his daily work should disseminate the facts regarding this spurious science founded on a false anatomical and physiological basis. We take this opportunity of commending the series of articles appearing recently in Leslie's Weekly exposing the fallacy of the greatest humbug ever perpetrated on the American public.

A bill prohibiting vivisection on dogs was introduced. The passage of such a bill would have been a great calamity; it would have seriously hampered scientific medical teaching and be a blow to medical progress. Such legislation limited in its scope appears innocent enough and appeals to the finer sentiments of man because it refers to man's best friend—the dog. But in reality it is only an entering wedge for further legislation of a more drastic and comprehensive character. Similar legislation has been attempted in other states but has met with failure. In the last analysis it is only a question of the value of animal life against human life. We are glad to record that this bill likewise failed in committee.

Under the guise of humanity and with a strong appeal to public sympathy the Shepard-Towner Bill found its way into our Legislature. It is paternalistic and socialistic in nature and has been declared unconstitutional by the Attorney General of Massachusetts. The House of Delegates of the American Medical Association, recognizing its undesirable features, put its stamp of disapproval upon it. Our Senate saw the bill in its true light and promptly proceeded to defeat it.

Of great interest to the profession of the State was the Simon Bill exempting physicians from the license tax. There are strong reasons in favor of this bill, and moreover, our new Constitution permits the Legislature to exercise its discretion as to who shall pay the license tax. The long array of arguments, including the principle involved, the fact that all the States save Mississippi and Louisiana have discarded this tax, and the vast amount of charity work performed voluntarily by the medical profession, was of no avail and the bill died in committee by a close vote. The chief objection came from certain lawyers who maintained that the free services occasionally forced upon

them by their code of ethics are of the same nature as the services rendered daily by physicians of their own free will.

The bill providing for the issue of bonds by the Charity Hospital to the amount of three hundred thousand dollars passed both Houses unanimously. It is unfortunate that the Governor could not see fit to affix his signature to this bill, because it was unconstitutional. There is a crying need for new buildings, and if the efficiency of the institution and the welfare of the public are to be promoted, they must be provided for. It is reported that the Board of Administrators with their characteristic zeal and energy will apply to the Board of Liquidation to sanction this bond issue. Let us hope that they will meet with success, as the sum needed is a mere pittance in comparison with the seven million dollars allotted to the Agricultural College.

We cannot dismiss this subject without referring to the appropriation for the maintenance of Charity Hospital. Both the Legislature and the Institution should be congratulated. The Committee displayed a generous spirit of fairness, and, after personally ascertaining the conditions and needs of the hospital, restored the amount originally allotted by the State Board of Affairs. The Hospital gained a big point because its claim for more funds to maintain efficiency, has been proven to be well founded, which establishes a precedent for the future.

PAUL J. GELPI, M. D.

SOCIETY PROCEEDINGS.

**PROCEEDINGS
OF THE
HOTEL DIEU STAFF.****Monthly Meeting for July, 1922.****The President, Dr. Homer Dupuy, in the Chair.****SARCOMA OF THE FACE.**

Dr. Joseph A. Danna presented two cases of *Sarcoma of the Face* which he thought were cured by Coley's toxins.

The first was a little girl of 11 years of age, showing a depression in her face just external to the right ala nasi, and an opening in the alveolar process of the right superior maxilla leading into the antrum. The opening was lined with necrotic bone and easily admitted the index finger. Another physician last December removed a small growth from the soft tissues overlying the superior maxilla over the root of the right canine tooth. This was pronounced a fibro sarcoma on rush section and 50 milligrams of radium were inserted for a period of twelve hours. The growth recurred however in spite of two other applications of radium at intervals of six weeks. Coley's toxins were administered over a period of nearly two months, when there was first inflammatory swelling of the growth, followed by gradual subsidence and, finally, a depression in the skin of the face at the point where the growth previously had been. There was a foul discharge from her mouth for some time, when the lateral incisor, canine and first bicuspid teeth were easily picked out with a pair of forceps disclosing the present cavity in the superior maxilla.

The second case was one in which the greater portion of the entire right side of the face was missing. All the soft tissues from the side of the nose and midline of the lip outward, to within an inch and a half of the right ear; the lower lid and eye ball; the lower wall of the orbit; the anterior wall of the antrum and the entire superior maxilla, were completely gone. This exposed the posterior and inner wall of the antrum, the under surface of the upper lid, the roof of the orbit and the border of what remained of the masseter muscle and the exposed end of the zygoma. The tongue could be seen through the missing portion of hard palate.



Fig. I.

Fig. II.

Fig. 1. Case of sarcoma of face after tumor mass had disappeared, showing depression at tumor site.

Fig. 2. Same case as Fig. 1, partly showing opening in alveolar process.

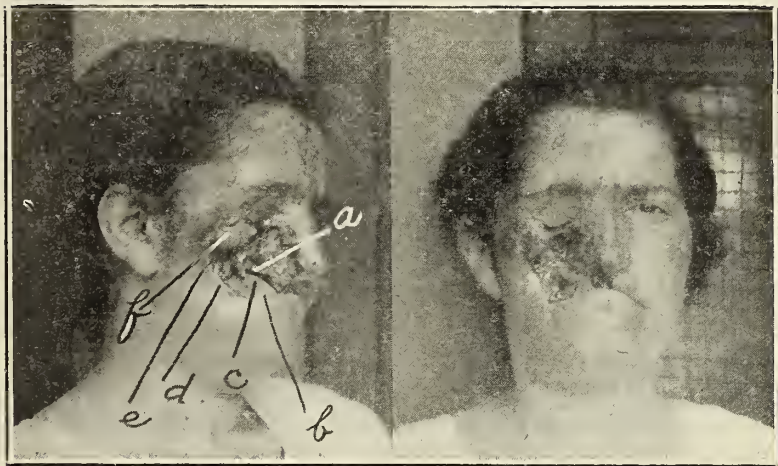


Fig. III.

Fig. IV.

Fig. 3. Case of sarcoma of face after tumor mass and great portion of face had sloughed away following administration of Coley's toxins, showing:

- a. Edge of hard palate.
- b. Lower teeth.
- c. Tongue.
- d. Healed muco-cutaneous line.
- e. Small area not covered by skin or mucous membrane.

Fig. 4. Front view of Fig. 3.

This patient two and a half years ago, developed a small lump under the right cheek which began to grow after being pinched by the examining physician in the course of an examination. The growth was removed and found to be a fibro sarcoma. She was sent to a radiologist who applied radium externally with instruction to return again in six weeks. She did not return to him but returned to Dr. Danna about four mouths later, the growth having recurred and being larger than it was before. She was sent to the Charity Hospital where X-rays were applied, and later an application of radium externally was made. Six weeks later radium needles were inserted into the growth. Up to the time that the radium needles were used the growth continued to grow. Shortly after the radium needles were used it ceased to grow and remained stationary for some time. About two months later, Coley's toxins were started, with the result that the growth broke down and gradually diminished in size until it nearly disappeared. About this time she decided to leave the hospital in spite of entreaties to the contrary and she was not seen again for six months. At this time her right cheek were missing and a large cauliflower growth, about two inches in diameter, stood out on her face at the site of the old growth. She was admitted to Hotel Dieu and given radium treatments at intervals of about three weeks. The radium seemed to diminish the growth in the spot where the radium was applied, but no material impression was made on the size of the growth which gradually continued to increase in size. The growth was now burnt off with a slow cautery, the cautery going through the anterior wall of the superior maxilla without encountering any bone. Radium needles were inserted in the charred mass left by the cauterization, but the growth bloomed forth again. Radium was now used almost continuously for a period of about six weeks without having any marked effect on the growth which continued to increase in size. Coley's toxins were now started, given daily hypodermically, beginning with $\frac{1}{2}$ minim the first day, 1 minim the second day and increasing the dose by 1 minim each day until she got a severe reaction with temperature above 103. She was now kept very sick, with repeated injections of Coley's toxins in increasing doses, and after about six weeks the growth began to slough in

spots. This sloughing process continued until all the missing portion of the face sloughed out.

Dr. Danna stated that he believed that this was a case where radium had been tried faithfully, and that while it was probable that an insufficient quantity of radium had been used no results had been obtained from the radium. He desired to show these cases as cases cured by the Coley's toxins, especially the second case, which had not responded to the other available means of treatment.

Dr. P. B. Salatich hoped that in a few weeks he would be able to report the cure of a cancer of the tongue and commented that we expected results too soon after the application of radium.

The first applications in his case were discouraging at the beginning but eight weeks after the last dose the original focus under the tongue had almost completely healed. This case made him doubt that Coley's toxin was responsible for the benefit derived in Dr. Dana's two cases and raised the question as to whether radium was not really responsible for the improvement, though the results did not show until several weeks had elapsed. He had used Coley's toxin quite often but his cases were extensive and derived no benefit. The hypodermic injections were very painful. He used one or two per cent cocain to prevent this.

Dr. T. J. Dimitry felt that the cases showed the possibility of obtaining improvement with Coley's toxins. He wondered if credit for the "cures" should not go to radium and if the toxins had not simply improved the secondary infection. He thought radium possessed much greater virtue than was generally accepted. Its limitations were granted, but many times insufficient dosage was responsible for its failure to bring about results.

Dr. Dimitry asked if the cases had radium sickness and if any blood studies were made. This might be very instructive. He was pleased to note that the toxin was not necessarily used in the vicinity of the growth as it had no greater merit when so used. As Coley's toxins was a suspension of proteins it had no specificity.

Dr. Lucien Fortier thought that in the case of the little girl, radium was the main factor in bringing about at least the temporary "cure." A radium tube was placed in the wound at the time of operation and several applications of needles were made later in the antrum.

In case two, operation was performed, but no radium was used. The case returned with a recurrence when surface radiation and one or two buried needles were used. After considerable improvement the patient disappeared for six months. She returned again with a large ulcerated growth and was treated by intensive applications of buried needles without any appreciable effect. Cauterization was advised and done, followed by more intensive radium treatment. This did not hold the tumor in check. He felt that most of the credit for the results in the case was due to Coley's toxins.

In treating sarcoma of the antrum the best results were obtained by making an opening through the hard palate, cauterizing and applying massive doses of radium.

Dr. Maurice Gelpi thought that it was too soon to look upon the cases as being cured, even though the primary results were brilliant. His idea was that the cases exemplified the value of **combining** all available methods of treatment and felt that from present indications, the control of the cancer problem would be more likely to result from a multiplicity of treatments than from a single agent. Attention was called to the progressive improvement following the addition of first ligations then radium and now deep X-ray therapy, to the original treatment by heat, zinc chloride and other pastes. He said that both cases should be given the benefit of deep therapy for further protection against recurrence. Radium must have produced at least some of the benefits obtained in both cases.

Dr. J. E. Landry was particularly interested in the second case. He had a similar case in 1919 with a cystic mass on the inner side of the right cheek, just above Steno's duct. The mass was incised and cauterized. This was followed by violent inflammation, rapid growth and pain.

Dr. Landry removed the tumor, which was the size of an olive, and thoroughly encapsulated. Pathological report revealed this growth to be a giant-cell sarcoma. Evidences of recurrence appeared shortly and immediately several radiotherapy treatments were administered without results. Coley's toxins were administered freely with the usual reactions. The treatments were given for several months. The case was considered cured, as after three years there was no evidence of recurrence.

The persistence of Dr. Danna in the use of Coley's toxins was lauded.

Dr. H. W. E. Walther commended Dr. Danna for his persistence in the use of Coley's toxins. He thought that the manner of action of the toxins was of no great consequence and that Coley's toxins should at least be given a trial, even if they only occasionally brought results when surgery, X-ray and radium failed. He recalled another case of Dr. Danna's, that of a boy with an inoperable sarcoma of the kidney the size of an adult head. He attributed the complete disappearance of this tumor to Coley's toxins. He said that every agent should be employed before looking upon the case as hopeless.

Dr. Danna said that while it might be so in the first case, it was not true in the second case that radium had caused the cure, for radium had been used almost continuously for six months without any more effect than the production of a small local slough where a needle had been inserted. It was more than three months after radium had ceased to be used that the first effects were noticed; and when breaking down of the growth commenced, it extended very much deeper and over a much greater area than could possibly have been reached by the radium. In some places the effect was seen three inches away.

The injection of the fluid is not painful, but the local reaction produces a painful, tender swelling.

The injections were not made into the tumor in these cases, but were given in the arms, thighs and chest.

The second case was usually made quite sick for two or three days following the use of radium. There were no blood studies attempted.

He did not desire to be understood as belittling the efficacy of radium in this class of cases as he used radium quite freely and got

better results right along. But the second case had failed, probably because the radium was insufficient in quantity. It was in the hopeless cases that Coley's toxins found its real field, for it reached the growth no matter where it was, though Coley advised injection of the toxins directly into the growth. Furthermore, it reached the metastases no matter where they were, without the need of their being previously located.

He believed the reason Coley's toxins were not more generally known and used was that it was necessary to make the patient very sick and keep him sick for periods of two months or more, repeated two or three times. In only one other case was he able to carry out the treatment to his satisfaction. The family soon begged off and took the patient home; even nurses, interns and the attending surgeon himself felt sorry for the patient after a while and gave it up.

Remarks of Fraternal Delegate, Mississippi State Medical Society, Before the Louisiana State Medical Society, Alexandria, La.

DR. W. A. DEARMAN (Long Beach, Miss.): I wish to express to the Louisiana State Medical Society that I feel it a signal honor conferred upon me in representing the Mississippi State Medical Association in the capacity of Fraternal Delegate and that the opportunity has presented itself for me to be present at your meeting. I bring to you greetings and that feeling of friendly relations from the Mississippi State Medical Association and we hope for a continuance of these relations. In behalf of our society I also want to thank you for the fraternal message that was brought to us at our Laurel meeting last year by Dr. Lynch, your fraternal delegate to our association. Dr. Lynch read a very interesting and instructive paper under the title: "The Diagnosis of Foreign Bodies in the Bronchi and Esophagus." Our State Association meets at Brown's Wells, May 9-10, and we extend to you a most cordial invitation to be present. You will be extended the privileges of the floor and asked to take part in all of our discussions and deliberations. I thank you.

CORRESPONDENCE.

New Orleans, La.

To the Editor New Orleans Medical & Surgical Journal.

Dear Sir: This is in reference to the letter criticising the Diagnostic Clinic, published in your July issue.

Attention is called to the Editorial in the A. M. A. of July 8, 1922, on the subject of Medical Ethics, from which is quoted the following in reference to the amended "Principles of Ethics" of the A. M. A.

"As may be noted, it is recognized that institutions which provide means for treating the sick and which have certain physical attributes which can properly be announced may call attention to these facilities."

This is exactly what the Diagnostic Clinic has done. That there might be some criticism or difference of opinion as to the manner in which their "physical attributes" were announced, is fully conceded by the Clinic. This however is beyond further correction at the present time yet would hardly seem to warrant the type of letter to which this refers. We trust that you will see fit to give this letter the same publicity as was given the correspondence to which this is a reply.

Respectfully yours,

THE DIAGNOSTIC CLINIC,
New Orleans, La.

NEWS ITEMS.

At the annual meeting of the staff of Hotel Dieu, held July 10th, the following officers were unanimously re-elected to serve for the ensuing year: Dr. Homer Dupuy, president; Dr. E. H. Walet, vice-president; Dr. H. E. Nelson, secretary, and Dr. P. B. Salatich, recorder.

The American Laryngological, Rhinological and Otological Society, at its annual meeting in Washington, D. C., May 4-6, elected Dr. Dunbar Roy, Atlanta, president; Dr. Wm. H. Has-kin, New York, secretary, and Dr. Ewing W. Day, Pittsburgh, treasurer.

The American Association of Genito-Urinary Surgeons, at their thirty-fourth annual meeting in Washington, D. C., May 2-3, elected the following officers: Dr. William E. Lower, Cleveland, president; Dr. Richard F. O'Neil, Boston, vice-president; and Dr. Henry G. Bugbee, New York, secretary-treasurer.

The Wisconsin State Board of Medical Examiners state that recognition has been granted by the board to the Loyola University School of Medicine, Chicago, and that graduates of 1920 and succeeding years are eligible to take examinations held by said board. Kentucky has also recently voted recognition to this school.

The American Association of Pathologists and Bacteriologists, meeting in Washington, D. C., May 2-4, elected the following officers: Dr. Paul A. Lewis, Philadelphia, president; Dr. James Ewing, New York, vice-president; Dr. Frank B. Mallory, Boston, treasurer, and Dr. Howard T. Karsner, Cleveland, secretary.

The Congress of Physicians and Surgeons of North America, which met recently, elected the following officers: President, Dr. Frank Billings, Chicago; treasurer, Dr. Francis W. Peabody, Boston, and secretary, Dr. Walter R. Steiner, Hartford.

The American Orthopedic Association, meeting in Washington, D. C., May 2-4, elected Dr. Ralph R. Fitch, Rochester, N. Y., president; Dr. W. S. Baer, Baltimore, president-elect; Dr. Fred

H. Albee New York, vice-president; Dr. John L. Porter, Chicago, secretary, and Dr. De Forest P. Willard, Philadelphia, secretary.

The American Otological Society, at its annual meeting recently elected: Dr. Geo. E. Shambaugh, Chicago, for president; Dr. John B. Rae, New York, vice-president, and Dr. Thomas J. Harris, New York, secretary-treasurer.

The Mid-Western Association of Anesthetists, meeting in St. Louis, elected Dr. B. H. Harms, Omaha, president; Drs. Royal S. Adams, San Antonio, and Francis E. Haines, Chicago, vice-presidents; Dr. Morris H. Clark, Kansas City, Mo., secretary-treasurer.

The American Ophthalmological Society recently elected, at their annual meeting in Washington, D. C., president, Dr. William H. Wilmer, Washington, D. C.; vice-president, Dr. Alexander Duane, New York, and secretary-treasurer, Dr. Thomas B. Holloway, Philadelphia.

The semi-annual examination of the Louisiana Nurses Board of Examiners was held in New Orleans and Shreveport, June 26th and 27th. Sixty-eight applicants qualified as registered nurses. The Louisiana Nurses Board of Examiners is composed of the following doctors: John T. Crebbin, president; Joseph S. Hebert, secretary-treasurer; George S. Brown, New Orleans; Fred J. Frater, Shreveport; Robert W. Faulk, Monroe.

NEW HOOKWORM TREATMENT.*

Evidence that is gradually being accumulated by medical men in various parts of the world provides a good basis for the belief that carbon tetrachloride, a cheap and common chemical, is a cure for hookworm in human beings. Recent reports from the Fiji Islands and Ceylon covering thousands of cases show practically 100 per cent of successes.

The discovery of the efficacy of the drug in removing these parasites was made by Dr. Maurice C. Hall of the United States Department of Agriculture, who tested it on dogs and even

*Released for publication by Monday, June 19, 1922, by U. S. Department of Agriculture.

tried out its effects on himself. His results immediately stimulated medical men in many countries to start investigations, and favorable reports are now being received by the department.

In the Bogambra prison at Kandy, Ceylon, a country where hookworm is common, this carbon compound was tried on 14 persons with marked success. Among them was a condemned criminal who offered himself as a subject for a thorough test. He was given a maximum dose of 10 cubic centimeters of the drug, which removed 55 hookworms. Twenty-two days later he was executed. A post-mortem examination showed that all these parasites had been removed. The other convicts apparently were completely freed of the parasites by much smaller doses. No effects other than slight dizziness and a sensation of weight in the stomach were noticed in the case of those receiving less than 10 cubic centimeters of the drug. The prisoner receiving 10 cubic centimeters experienced some nausea and drowsiness.

Twelve thousand natives of the Fiji Islands, according to a telegraphic report recently received in London, have been successfully treated by the same method, a single dose removing all these parasites from 90 per cent of the patients and at least 98 per cent of them from all persons treated. This is the most extensive test of the chemical yet made on human beings.

The almost universal success thus far gives reason to believe that carbon tetrachloride is far superior to the old remedies, thymol and oil of chenopodium. The second of these has given rise to a number of fatalities, probably because of the variable composition of different samples, and thymol has caused the deaths of some patients. Thus far carbon tetrachloride, which is usually given in capsules, has produced no ill effects and does not appear seriously to inconvenience the patient.

The tests made on human beings in various countries, including the large number in Fiji, bear out those made by Dr. Hall. He found that a very small dose, 0.3 of a cubic centimeter to a kilogram of live weight, amounting to less than an ordinary teaspoonful for a 22-pound dog, was effective, but in one case a dog was given about 20 fluid ounces (nearly a half pint) without evidence of injury to the animal. The United States Public Health Service reports that relatively heavy doses given to

monkeys produced no symptoms of poisoning and no noticeable change in any of the organs.

As the evidence piles up, it seems more and more probable that carbon tetrachloride, which is commonly used as a clothes cleaner, will prove to be a cheap, agreeable, and effective treatment for a parasite that is destroying health and reducing human efficiency in millions of people in many parts of the world, including many thousands in our Southern States.

There has recently been opened in this city the Sophie L. Gumbel Training School for Girls. The object of this school is to train girls who have been unusual problems at home or in the regular graded schools. Examinations are made at the school and application should be made to the Superintendent, preferably in person. Miss Helen E. Russell of Boston and New York is Superintendent and Directress of Activities. The examining staff consists of Dr. Charles L. Eshleman, Internist; Drs. Henry Daspit and Walter J. Otis, Neuro-psychiatrists; Prof. J. M. Fletcher, Psychologist.

REMOVALS: Dr. W. B. Allen, from Ringgold to Elizabeth, La.

Dr. K. Allen, from 707 to 842 Maison Blanche Building.

MARRIED: On June 8, Dr. C. A. Wallbillich of N. O. to Miss Emma Laura Sullivan of Tullhoma, Tenn.

Dr. J. D. Young, Covington, La., to Miss Helen Jansen, on June 17th. Dr. Young has but recently returned from Harvard where he has been doing work in neuro-psychiatry. He will locate in Shreveport.

DIED: On Wednesday, July 19, Dr. Wm. D. Roussel, of Patterson, La., age 54.

BOOK REVIEWS AND NOTICES.

All new publications sent to the JOURNAL will be appreciated and will invariably be promptly acknowledged under the heading of "Publications Received." While it will be the aim of the JOURNAL to review as many of the works accepted as possible, the editors will be guided by the space available and the merit of respective publications. The acceptance of a book implies no obligation to review.

Physical Diagnosis, by W. D. Rose, M.D. Second edition; pp. 736; 309 illustrations. St. Louis; C. V. Mosby Co., 1921. The conception of this work into subdivisions and chapters is splendid, but cannot be done justice to in a work of this size. The classification of rales is scarcely justified by either modern thought or historic precedence. The subject of pulmonary tuberculosis is not well presented as a whole, and incipient pulmonary tuberculosis is given far too little space; the physical signs given as characteristic of this most important condition are not in accord with the views generally expressed in the literature by the highest authorities. The subject of the examination of the bladder, ureters and kidneys is dismissed without even a mention of cystoscopy—certainly the most important diagnostic step in the examination for disease of this system. The author says, "The Kidney is roughly reniform in shape," which can scarcely be considered descriptive English. The book is not to be recommended. C. J.

New Growth and Cancer. Harvard Health Talks, by Simeon Burt Wolbach. The Harvard University Press, 1922. It is remarkable that so much accurate information can be contained in 53 small pages. At the present time, when cancer and its increase has become almost a phobia with the public, a short and popular work of this kind is of inestimable value. The literary style is up to the high standard one would expect of a Harvard professor. The book can be read with profit by doctors and students of medicine, and is to be highly recommended to any of the laity who seek accurate information concerning cancer. C. J.

A Manual of Midwifery, for students and practitioners, by Henry Jellett, B.A., M.D. (Dublin University), F.R., C.P.I., L.M., and by David C Madill, B.A., M.B., B.Ch., B.A.O. (Dublin University), L. M. Third edition; William Wood & Company, New York. According to the notes of the editors, this edition is the revision of a book issued some eleven years ago for the benefit of students and practitioners. The editors have certainly fulfilled their desires in this regard, as the book, from beginning to end, is replete with the most modern instruction and information, offered in such a practical way that students and practitioners will find it a valuable source of ready knowledge.

For example: they particularly stress upon the modern conclusions of the bacteriology of the genital tract, supported by evidences of experimentation and actual clinical experience to bear out their conclusions. Their cuts and illustrations are unusual, portraying in a concise manner the points necessary and desired to be brought out in either obstetrical manipulations or obstetrical surgery.

Containing, as this manual does, the most modern practices and conclusions in midwifery up to date, this edition will prove to be a valuable reference book for general or specific use.

P. T. TALBOT.

Operative Surgery, by J. Shelton Horsley, M.D., F.A.C.S., attending surgeon, St. Elizabeth's Hospital, Richmond, Va. Pp. 721, with 613 illustrations. St. Louis: C. V. Mosby Company, 1921. This is an excellent and compact work on a subject which can be treated only with great difficulty in one volume. The author's individuality is shown in repeated instances. The section on appendicitis will be of particular interest to surgeons in New Orleans who have followed the technic of inverting the stump with a purse string to the practical exclusion of all other methods. The surgery of the stomach and of the intestines is thoroughly covered and amply illustrated. The explanation of the various procedures recommended is terse and vivid and the author's style is exceptionally clear. The book can be highly recommended to the general surgeon. A. E. F.

Supplementary Volume VII of Keen's Surgery, by various authors. Pp. 855, with 359 illustrations. Philadelphia: W. B. Saunders, 1921. A condensed list of subjects treated is as follows: General, Military, Naval, Technic, Fractures, Spine and Peripheral Nerves, Orthopedic, Vascular System. At the beginning of the volume are several special articles on Inflammation, Rabies, Anthrax, Burns, Syphilis, Gas Gangrene, etc. The influence of the various advances resulting from the treatment of wounds during the war is noted throughout the book. A great deal of space is devoted to a description of the organization of military and naval personnel to secure the maximum efficiency during combat. This will be of interest to a small percentage only of the medical profession. The use of the Thomas splint and its various modifications, the treatment of fractures of the femur, which has just emerged from the era of the rack and thumb screw, are all covered with the utmost clearness and deserve the closest study. Carrel-Dakin method, so generally misunderstood, is discussed with a full realization of its advantages and disadvantages. Orthopedic and reconstructive surgery is also treated at length. The concluding chapter on Military Surgery of the Vascular System was contributed by Dr. Rudolph Matas. It is unnecessary to add that this chapter is the final word on the subject.

A. E. F.

Supplementary Volume VIII, Keen's Surgery. Pp. 960, with 657 illustrations. Philadelphia: W. B. Saunders, 1921. It is not possible to review this work in a few lines. The information on an enormous number of subjects is brought up to date by competent authors. The chapters on the Endocrine System of Glands, by P. P. Vinson; Surgery of the Thyroid, by Charles Mayo; Recent Advances in our Knowledge of Pathology of Goitre, by Louis Wilson; Radium in the Treatment of Malignant and Other Diseases, by William Duane; and the chapter on Appendicitis, by John B. Deaver, will be found of particular interest. As the first volumes of Keen's Surgery become out of date, it is gratifying to note that the high standard set by the editor is being maintained in the supplementary publications. The complete set is a foundation for any surgical library.

A. E. F.

PUBLICATIONS RECEIVED.

C. V. MOSBY COMPANY, St. Louis.

Symptoms of Visceral Disease, by Francis Marion Pottenger, A.M., M.D., LL.D., F.A.C.P.

Applied Chemistry, by Fredus N. Peters, Ph.D.

F. A. DAVIS COMPANY, Philadelphia.

Diseases of Infancy and Childhood, by Louis Fischer, M.D., Vols. 1 and 2, ninth revised edition.

Clinical Diagnosis and Symptoms, by Alfred Martinet, M.D., Paris, Vols. 1 and 2.

Diseases of the Stomach and Upper Alimentary Tract, by Anthony Bassler, M.D., F.A.C.P.

WASHINGTON GOVT. PRINTING OFFICE, Washington, D. C.

United States Naval Medical Bulletin, Vol. 16, No. 6.

Public Health Reports, Vol. 37, Nos. 23, 24, 25, 26, 27.

MISCELLANEOUS.

Handbook of Organization and Method in Hospital Social Service, by Margaret S. Brogden; The Norman Remington Co., Baltimore.

Transactions of the American Pediatric Society, Vol. 33, 1921.

Report to the Citizens' Committee on an Investigation of the Department of Hospitals and Dispensaries, Buffalo, N. Y., by Haven Emerson, M.D.

REPRINTS.

A Local Versus the Constitutional Nature of Cancer, by L. Duncan Bulkley, M.D.; **Insanity**, by F. F. Young, B.S., M.D.; **A Study of the Gall Bladder**, by the Lyon-Meltzer Method, by Curran Pope, M.D.; **A Case Showing Endocrinal Disturbance**, by Curran Pope,

MORTUARY REPORT OF NEW ORLEANS.

Computed from the Monthly Report of the Board of Health of the City of New Orleans, for May, 1922.

CAUSE	White	Colored	Total
Typhoid Fever	2	1	3
Intermittent Fever (Malarial Cachexia)	1		1
Smallpox			
Measles			
Scarlet Fever			
Whooping Cough			
Diphtheria and Croup			
Influenza	1		1
Cholera Nostras			
Pyemia and Septicemia	2	3	5
Tuberculosis	20	33	62
Cancer	27	19	46
Rheumatism and Gout	1	1	2
Diabetes	4	1	5
Alcoholism	2		2
Encephalitis and Meningitis	1		1
Simple Peritonitis	1	2	3
Locomotor Ataxia	29	10	39
Congestion, Hemorrhage and Softening of Brain	4	1	5
Paralysis	1	1	2
Convulsions of Infancy	3	1	4
Other Diseases of Infancy		1	1
Tetanus	60	32	92
Other Nervous Diseases	3		3
Heart Diseases	16	17	33
Bronchitis		1	1
Pneumonia and Broncho-Pneumonia		1	1
Other Respiratory Diseases		1	1
Ulcer of Stomach	14	6	20
Other Diseases of the Stomach	6		6
Diarrhea, Dysentery and Enteritis	4	2	6
Hernia, Intestinal Obstruction	2	1	3
Cirrhosis of Liver			
Other Diseases of the Liver	7	4	11
Appendicitis	22	17	39
Bright's Disease	15	4	19
Other Genito-Urinary Diseases	8	4	12
Puerperal Diseases	4	2	6
Senile Debility	3	2	5
Suicide	22	11	33
Injuries	58	20	78
All Other Causes			
Total	352	199	551

Still-born Children—White, 21; colored, 18; total, 39.

Population of City (estimated)—White, 295,000; colored, 110,000; total, 378,000.

Death rate per 1000 per annum for month—White, 16.64; colored, 20.73; total, 16.34. Non-residents excluded, 14.46.

METEOROLOGIC SUMMARY (U. S. Weather Bureau).

Mean atmospheric pressure 29.99
Mean temperature 82.
Total precipitation 6.45 inches
Prevailing direction of wind, southeast.

NEW ORLEANS MEDICAL AND SURGICAL JOURNAL

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SEPTEMBER, 1922

No. 3

ORIGINAL ARTICLES.

(No paper published or to be published in any other medical journal will be accepted for this department. All papers must be in the hands of the Editors on the tenth day of the month preceding that in which they are expected to appear. Reprints may be had at reasonable rates if a WRITTEN order for the same accompany the paper.)

THE X-RAY DIAGNOSIS OF DISEASES OF THE LUNGS.*

By DR. AMEDEE GRANGER, New Orleans, La., Officier d'Academie; Professor of Radiology, Post-Graduate School of Tulane University; Chief of the X-Ray Service of the Charity Hospital.

INTRODUCTION.

A good X-ray film records as shadows of varying densities the amount of absorption of the X-rays by the organ or part through which these rays pass, and if the normal shadow density of the organ or part is known, we must learn to look upon abnormal densities as indicative of definite pathological changes. A radiogram is in fact a faithful shadow picture of gross pathology. In the study of lung pathology, it is superior to other methods because it can be used during the life of the patient to ascertain the character and extent of the lung lesions and to follow their development.

Certain densities suggest definite cellular pathology, but their etiology can only be deduced by a careful study of the entire

*Read before the Louisiana State Medical Society Meeting, April 11 to 12, 1922.

lung field, and then not always without the aid of the clinician and the pathologist. The independent X-ray report has great value from a purely laboratory standpoint, but the real value of the X-ray study of the lungs is when its results are correlated with those obtained from the other clinical methods of investigation. Thus the plate reading should be made without any knowledge of the physical signs and symptoms of the patient and the abnormal densities interpreted in terms of definite pathology. A diagnosis and, with a lesser degree of accuracy, a prognosis can usually be made after correlating the data thus obtained with the physical signs, the history of the patient and, when need be, with the other laboratory findings.

The greatest benefit to be derived from the routine X-ray examinations of the lungs lies in its ability occasionally to yield definite data in the absence of definite physical signs.

The peculiarities in the anatomical structure of the lungs as demonstrated by Miller and Dunham with the relation between the bronchi, arteries, lymphatics, and secondary lobules have such an important bearing on the interpretation of all pulmonary lesions that they will be briefly described.

NORMAL LUNGS.

Normal lung tissue can with accuracy be detected on the X-ray film, and the radiologist should become familiar with its characteristic density and with normal lung markings as well (Fig. 1).

The shadow of each root includes the shadows of the bronchus, the pulmonary artery, two pulmonary veins, one bronchial artery on the right side and two upon the left, one bronchial vein, lymphatics and nodes, nerves, and alveolar tissue, the whole surrounded by pleura. The bronchi are posterior and the pulmonary veins anterior to the pulmonary arteries. On the right side the bronchus is shorter than upon the left and the superior trunk is given off above the level of the pulmonary artery. On the left side, the bronchus is below the level of the pulmonary artery and all the branches are given off below that level. In the lung the root divides into two main trunks, which are a superior one and an inferior one; and in the right side, a third trunk, the median one, which goes to the middle lobe. The superior trunk divides into three branches, which are named according to their location, the vertebral and the first inter-space and second inter-space branches. The inferior trunk divides into

branches, some going anteriorly and others posteriorly. These trunks and their principal branches form the set of larger divisions of the bronchial tree and are situated in the hilum zone of the lung fields. The lungs are divided into many numerous cones or triangular pyramids (the secondary lobules of Miller) by the septa of the lungs. These septa, which are prolongations of the pleura into the lungs, limit the extent of many lung lesions as effectively as the lobe limits lobar-pneumonia.

Dunham has divided the lung fields from the sternum outwards into three zones, called, respectively, the hilum zone, mid zone and peripheral zone. These zones are limited by three imaginary curved lines extending from the clavicle to the diaphragm, and corresponding to the three sets of divisions of the bronchial tree visible on an X-ray film, the larger medium and the smaller or tertiary sets. Three sets of lymph nodes, the proximal, median and distal, are found at the bifurcation of these three sets of bronchial tree divisions, and three sets of secondary lobules, the hilum, median and peripheral, are situated in the corresponding zones of the lung fields.

When a lesion with differentiating density develops within one or a number of these secondary lobules it may be recognized upon the film.

TUBERCULOSIS.

Since, if we exclude acute pneumonic infections of the lung, pulmonary tuberculosis is the most common lesion we find, it must be excluded before any other diagnosis can be substituted.

The earliest recognizable lesion of adult tuberculosis is the Dunham fan, a cone or triangular-shaped shadow with its base towards the periphery or pleura, usually found in the apical region along the first or second interspace branches. It is formed when the inflammatory exudate, at the point of inoculation with the tubercle bacilli, fills the air cells and terminal bronchus of a secondary lobule. The lesion is limited by the lung septa which forms the walls of the lobule, and harring cavitation, does not spread beyond that boundary. When adjacent lobules become invaded it is through the lymph stream or the smaller bronchi and not by continuity. Early fans are usually small and are found, in studying sections of the lung, to be near the pleura. Dunham believes that the presence of two or more of these fans of different densities in the location already mentioned consti-

tute a lesion which is pathognomonic of adult tuberculosis. The varying densities of the fans is due to the difference in their ages and they represent the tuberculous lesions in its various stage of development, exudate, fibrosis, caseation, calcification.

Dunham recommends the following classification of the abnormal densities seen on the radiograms, which is based on the pathology of pulmonary tuberculosis. It has proved of great help to him in making a prognosis and in differentiating tuberculosis from other diseases of the lung:

Adult types (sensitized patient).

Apical tuberculosis.

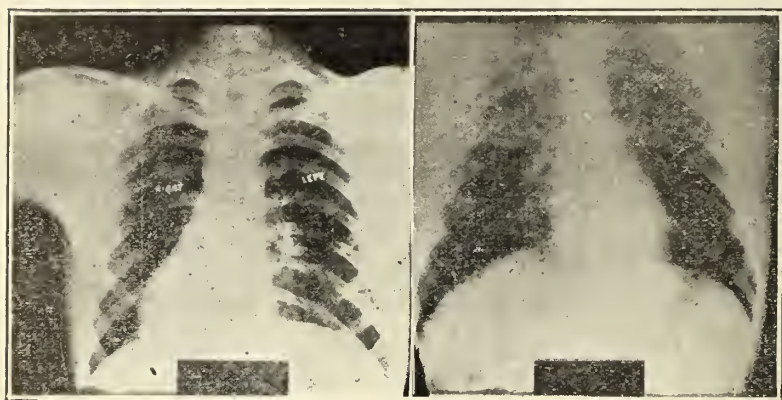


FIG. 1.
NORMAL LUNGS.
Transportation of the Thoracic
Viscera.

FIG. 2.
PULMONARY TUBERCULOSIS.
Broncho-Pneumonic condition in-
volving the upper, middle and apex
of the lower lobe of the right lung,
and the upper lobe of the left lung.

Gelatinous and caseous broncho-pneumonia with apical lesions.

Lobar caseous pneumonia with apical lesions.

Fibrous pleurisy—pleural exudate.

Puerile types (non-sensitized patient).

Primary lesion and tuberculous nodes.

Miliary tuberculosis.

Tuberculous caseous broncho and lobar pneumonia without apical lesions.

Caseous pleurisy.

After the apical lesions the most common lesion of the adult tuberculosis is caseous broncho-pneumonia. As a rule it invades first the upper lobe above the second interspace, then the upper

portion of the lower and median lobes, then the lower part of the upper lobe. (FIG. 2.)

It frequently can be seen scattered along a branch of main stem bronchus suggesting raisins upon a stem. (FIG. 3.) It may become confluent and produce pseudo-lobar caseous pneumonia. Both lungs may be involved but usually not to the same extent. Caseous lobar pneumonia or gelatinous tuberculous lobar pneumonia (hasty consumption) may involve a lung or part of a lung or both lungs. Such lesions break down and cavitate rapidly, forming large thin-walled cavities, the prognosis is desperate. (FIG 4.)

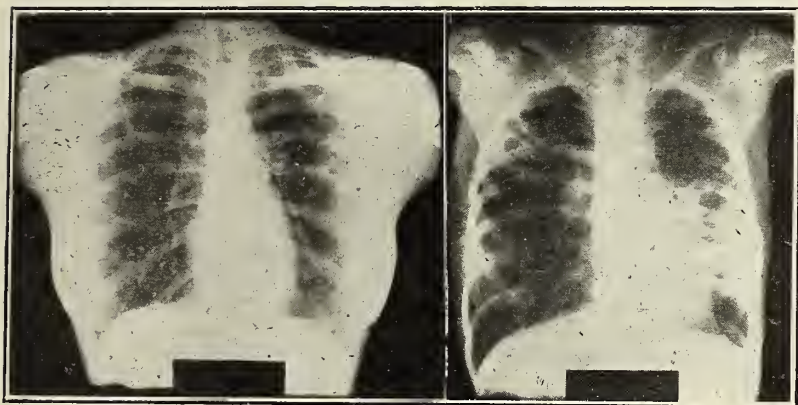


FIG. 3.

PULMONARY TUBERCULOSIS.

Broncho-Pneumonic areas scattered along the branches of the main stem bronchi in the upper lobes of both lungs.

FIG. 4.

PULMONARY TUBERCULOSIS.

Gelatinous tuberculous lobar pneumonia with rapidly forming large thin-walled cavities in both lungs.

Acute miliary tuberculosis (galloping consumption) presents a picture that is characteristic, resembling fine studdings more or less evenly distributed throughout both lung fields. Without the history and clinical picture such plates could not be differentiated from pneumoconiosis.

Basal tuberculous lesions without apical lesions are rare; when they are seen it is usually in children. They may be pneumonic or broncho-pneumonic in character and must be differentiated from lung abscess and unresolved pneumonia. The clinician must make the final diagnosis, the radiologist can only describe and locate the lesion.

The X-ray picture of caseous pleurisy is that of an empyema associated with caseous broncho-pneumonia.

The necessity of studying the distribution and character of the lesions through all the lobes can not be too strongly emphasized, because, taken alone, the abnormal densities offer nothing characteristic in quality. A single fan is neither characteristic in itself nor pathognomonic of tuberculosis. Any lung infection (influenza) in which an exudate is thrown out may produce a fan for the same anatomical reasons responsible for its production in tuberculosis. But owing to the pathogenesis and spread of the latter, which is known to consist of a series of repeated infec-

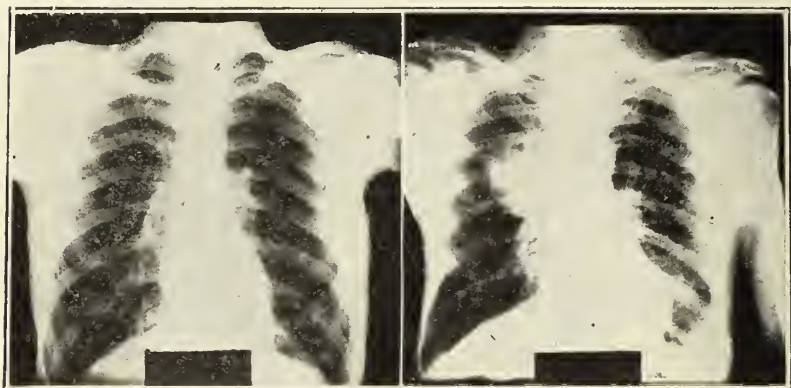


FIG. 5.

LUNG SYPHILIS.

Dense hilum shadow and peri-bronchial densities involving principally the lower lobe of the right lung.

FIG. 6.

LUNG SYPHILIS.

Gummata with peri-bronchial densities.

tions either from without or within, fans of different densities are found. Viewing the lung lesion as a whole, the picture thus formed is characteristic. Generally speaking, it is advisable in the adult to limit the X-ray diagnosis of pulmonary tuberculosis to definite tuberculous lesions of the parenchyma, because we have no way of deciding whether peribronchial and hilar densities are produced by tuberculosis or by some other infection. Dunham believes that they have little clinical significance unless they are accompanied by fans.

Thickened trunks and heavy hilum densities may be valuable in reading the plates of children, but only as a study, not as a final diagnosis. Dunham considers heavy trunks and heavy hilum

shadows containing definite caseous or calcareous areas in children's plates as tuberculous.

SYPHILIS.

Watkins found 172 cases of pulmonary syphilis in 6,500 examinations of the chest and heart, and 209 cases of syphilis complicating advanced tuberculosis. The lesions of active or early syphilis are seen as densities caused by gumma or inflammatory infiltration. The lesions of old, latent or hereditary syphilis are seen as densities caused by interstitial peribronchial or periarterial fibrosis or dense fibrosis of the lung or pleura.

Wide variations of densities from simple peri-bronchial de-

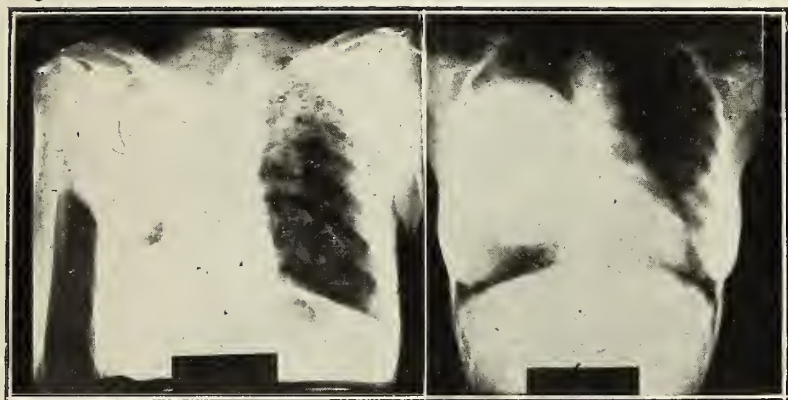


FIG. 7.
LUNG SYPHILIS.

Broncho-stenosis with partial collapse of the right lung and marked retraction of the heart and mediastinal structures to the right side, resulting from the syphilitic ulceration of the bronchus. Gummata and peri-bronchial lungs.

FIG. 8.
LARGE ECHINOCOCCUS OF THE
RIGHT LUNG.

posits of fibrous tissue in a limited lung area to complete consolidation of an entire lung are produced by lung syphilis.

When active syphilis invades the lung, extensive consolidation or inflammatory infiltration usually takes place in the lower lobe because of the tendency of this infection to follow the larger arterial trunks. The shadows are of varying density, with irregular edges and showing a tendency to form along the heart border and larger bronchial trunks, and the right lung is more often involved than the left. (FIG. 5.)

When the tissue resistance is sufficient to encapsulate the diseased area, gummatous lesions result. The shadows of gummata

vary in size, are usually multiple, are confluent, their edges are slightly irregular, but better defined than consolidated areas. When caseation takes place their centers have diminished densities. When fibrosis takes place, these shadows become irregular in outline with extensions of fibrous tissue which contract the lung and obstruct bronchi.

The interstitial or peri-bronchial fibrosis or arteritis with its end result dense fibrosis of the lung or pleura, occurs in latent syphilis.



FIG. 9.
LATERAL VIEW OF CHEST.
Showing marked fibrosis and calcification of the tracheobronchial glands and of the main stem lymph nodes with peri-bronchial densities.

This peri-arterial fibrosis causes fine or coarse linear striations usually springing from a dense hilum shadow and radiating to the periphery. These striations may occupy a limited area or involve both lungs generally.

Indefinite lung densities are frequently found in association with cardiac or aortic syphilis and although it has never been definitely decided whether they represent inflammatory reaction secondary to infection or passive congestion from mechanical

conditions, the observation has repeatedly been made that they disappear under anti-luetic treatment.

The pleura is also extensively involved and causes a marked connective tissue reaction, resulting in radiating or stellate scars which may be very extensive but which rarely calcify.

The general types of radiographs resulting from the pathological lesions described above are:

1. Gummata with syphilitic peri-bronchial densities (FIG. 6).
2. Syphilitic peri-bronchial densities. (FIG. 5.)
3. Broncho-stenosis with collapse of the lung and marked retraction of the heart and mediastinal structures to one side, resulting from the syphilitic ulceration of a bronchus. (FIG. 7.)

Syphilis and tuberculosis may occur simultaneously in the same lung, each producing its own lesion which frequently can be recognized on the X-ray film.

The two diseases may also occur as a true symbiosis when the characteristics of neither infection will be preserved.

When the syphilitic areas have been invaded by tuberculosis or when the encapsulated tubercle is broken down and the bacilli disseminated under the influence of syphilitic infection, we should not expect to find typical densities. However, the absence of infected cavities, the confluence of small consolidations along the heart border, the hilum masses and the diffuse peri-bronchial fibrosis more marked in the lower lobe should suggest syphilis.

MALIGNANT TUMORS.

Malignant tumors may be sarcoma or carcinoma and primary or secondary. Primary sarcoma is usually in the form of lympho sarcoma and is detected on the film as a large single shadow which may occupy the greater part of the chest. Secondary sarcoma frequently follows malignant sarcoma of bone, tonsils, cervical lymph nodes or of other regions of the body. These tumors spread through the lymphatics as does tuberculosis; are not limited by the lung septa, spreading rapidly by continuity and show no special affinity for the apices. They may be small or large, usually multiple and appear as rounded circumscribed shadows.*

Shadows due to metastatic carcinoma are usually fairly regular in outline and are apt to be limited more to the region of the mediastinum although invasion of the lungs is not infrequent.

They not infrequently follow carcinoma of the breast or other parts of the body.

Primary carcinoma are less frequent and usually present an X-ray picture which is quite characteristic. Christie has described two types—the infiltrative and the miliary causing densities which are not sharply circumscribed but have a hazy appearance at the periphery and are surrounded by a zone of congestion which shades off into the lung shadow.

The infiltrative type, which usually has its origin in one of the large bronchi near the hilus, is seen as a roughly circular shadow extending outward from the hilus with projections radiating out into the lung.

There may be in addition a few nodules with the same indistinct edges surrounding the larger shadow or in relation with the bronchial trunks farther toward the periphery.

In the miliary type, nodules or masses of nodules with the characteristic indistinct edges are seen throughout the lungs.

Calcified shadows are not seen in either primary or secondary carcinoma.

If the characteristic appearance and distribution is seen, primary cancer can be suspected, but it is essential in every case to interpret the radiogram in the light of the symptoms, the physical signs and especially the mode of onset and the course of the disease to make a diagnosis.

CYSTS.

Echinococcic cysts are very rare and their favorite side is the base of the right lung, occasionally only they involve the mediastinum. (Fig. 8.) Dermoid cysts arise in the mediastinum and vary in size from a walnut to that of a child's head. The small ones remain in the mediastinum while the large ones may extend outward into the pleural cavity. Very rarely they occupy the right base.

In shape cysts are usually spherical but may be flattened when in contact with the diaphragm. The cyst wall may be very thin or quite thick and is invariably adherent to the surrounding structures, most commonly the pleura.

Dermoid cysts in the majority of cases contain cholesterol crystals and may also contain hair, epidermis, cartilage, bone or even teeth. Partial calcification of the cyst wall is not infrequently found.

PNEUMOCONIOSIS.

Jarvis has been able to demonstrate five stages of pathologic lesions in granite cutters, viz.:

1. Increase in hilum width and density, giving evidence of the continued drainage of an irritant through the lymphatics from the periphery to the tracheo-bronchial lymph nodes.

2. Increased width and density of trunk markings, evidence of hyperplasia.

3. The appearance of densities at the branching of the bronchi due to enlarged lymph nodes from inflammatory changes in them.

4. The appearance of fans giving evidence of an accumulation of more irritant at the periphery than the lymphatics draining that particular area can take care of.

5. The appearance of a homogenous haze at the lung periphery giving evidence that the work of draining back to the tracheo-bronchial lymph nodes has become too great and consequently a detour is being made through the pleural lymphatics.

It requires many years of exposure to dust inhalation for the fan densities to form. These fans are larger than those seen in pulmonary tuberculosis; they are triangular in shape with the sides of the triangle formed by distinct linear densities. Their base is towards the periphery and their apex usually formed by a lymph node density, is towards the hilum.

From ten to fifteen years of exposure to the irritant are necessary for the mechanical irritation to produce a lung picture which may be diagnosed as tuberculosis, cancer or post-flu if there existed constitutional symptoms, and from twenty to twenty-five years to produce a lung lesion resembling a broncho-pneumonia and thirty years one resembling a lobar pneumonia.

It seems possible to parallel films of tuberculosis, post-influenza pneumonia, broncho-pneumonia, syphilis, cancer of the lungs with the films of pneumoconiosis, there being an absence of clinical activity in the latter.

The mechanical irritant seemingly produces the same lesions as those produced by bacterial irritation.

Evidence tends to show that the lesions always remain peripheral and the lung reaction to an irritant is evidenced by densities appearing from the hilus outwards.

ACTINOMYCOSIS.

Aetinomycosis usually occurs in the form of a lung abscess and the diagnosis is made bacteriologically.

TECHNIQUE.

The fluoroscope can in no way compare with the plate or film in detecting slight lesions nor in studying the various densities due to pathological changes in the lungs. Its value lies principally in studying motion. For that reason the movement of the diaphragm, the pulsation of the heart and aorta, the passing of the opaque meal through the oesophagus can be best studied by the fluoroscope.

The writer's technique consists in making two 14 x 17 films, one a posterior-anterior view, the other a left lateral view of the patient in the erect posture at a target-plate distance of six to seven feet, using a diaphragm opening just large enough to allow the rays to reach every portion of the film. This last condition he considers very important and he attributes mainly to it the great brilliancy of the negatives, the wealth of detail, the good definition of the lung markings and of the abnormal densities when these exist, and the distinct perspective amounting to a very satisfactory pseudo-stereoscopic view. This is well brought out when these films are viewed from a distance of six feet or more or when at closer range for the better study of the minute details they are viewed through a reducing lens of large size placed in the bottom of a dark chamber (a discarded hand fluoroscope hood does very well for this purpose). This dark chamber or hood is not a necessity, but it greatly improves the view of the reduced image by shutting out light and other images. Those who have not examined such films in the manner described will be astonished to see with what clearness and sharpness the minutest details are brought out, and the distinct stereoscopic value thus obtained.

The writer is fully aware of the difficulty of accurately focusing a tube at that long distance when such a small diaphragm opening is used, but he knows also that this purely mechanical difficulty can be overcome so successfully that the focusing becomes almost automatic. This is the case in both his private and hospital laboratories, where six-foot radiographs of the chest have become the routine in all examinations made of the lungs. The superior advantage of this technique was very well illus-

trated in the case of the echinococcic cyst (FIG. 8) to be seen in the writer's exhibit at this meeting.

The rounded shadow of the cyst can be plainly seen, the mammary gland shadow is easily differentiated and the shadow of the diaphragm is distinctly outlined below the lower border of the shadow of the cyst and separated from it by an area of normal lung density, all so clearly seen that even a beginner could not fail to diagnose a cyst. Yet this patient had been examined with the X-rays and her condition diagnosed as one of pleural effusion. The other examination was made with the patient in the recumbent posture and at the usual target-plate distance—26 to 31 inches—and it can be readily seen how the shadows of the various structures, cyst, mammary gland, diaphragm magnified by the shorter target-plate distance, and with the sharpness and definition of their outlines lost, became blended one with the other, causing a reading of the radiogram which did not correspond to the real lung pathology.

The greatest advantage of this long focus technique lies in the fact that it causes such a negligible magnification of the shadows (not more than 5 mm. per 15 cm.) that the measurements of thoracic organs, structures or lesions can, for all practical purposes, be considered the same as those made of their shadows seen on the films. Furthermore, as other films made under identical conditions—position, distance, time of exposure, etc.—can be very easily made as often as necessary the progress of pathological lesions in the lungs can be accurately studied and followed. The great value of this study not only in diagnosis but in prognosis is readily appreciated.

The lateral view is not merely supplementary, but is quite indispensable for the accurate study of the size and location of deep-seated abscesses, interlobar or encysted collections of fluid or pus, abnormal massive densities in the lungs or hilum region, the post-mediastinal space, and the tracheo-bronchial glands. (FIG. 9.) In children, tuberculosis of the tracheo-bronchial glands is not infrequently the only tuberculous lesion present and a true idea of the size and pathology of these glands can not be arrived at from a study of the posterior-anterior film.

NOTE.

Ladies and gentlemen, I have with me a large reducing lens and if any of you desire viewing through it the radiograms illus-

trating several of the pathological lesions described in this paper, I will be delighted to meet you in the scientific exhibit where these films are on display—after this session is over.

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DISCUSSION.

Dr. L. A. Fortier, New Orleans: I want to congratulate Dr. Granger on his complete paper. Besides examination of the lungs this is a great help in heart and aorta conditions. This gives you the true size of the aorta. Before the time of these long-distance radiograms cases were examined by means of the ortho diagrams. Now, with this technique we do not have to expose the patient to the use of so much fluoroscopic observation. Besides the lesions shown here I think the lung examination is important in empyema conditions, either a general empyema localized or a lung abscess. Metastatic lung conditions show up many times when they are not suspected. Cases of gastric carcinoma or carcinoma of the breast, I am sure, many times were subjected to operation when they had metastatic nodules in the lungs already. Therefore, I think radiological work is very important in chest examinations.

Dr. A. Henriques: I want to stress one point: For ten or twelve years some of us had to endure a good deal of adverse criticism for advocating the use of the X-ray in pulmonary tuberculosis. I want to call the attention of those gentlemen who criticized us to Lawrason Brown's recent article on tuberculosis, in which he says that if anyone had told him twenty years ago that his chiefs, Trudeau and Osler, would not be able to discover cases of pulmonary tuberculosis by physical signs alone he would not have believed it, but since the advent of the X-ray he finds this is the case. I want to stress that point to show that the X-ray has come to be recognized as a means of diagnosis in obscure chest conditions in connection with all physical signs.

Dr. S. C. Barrow, Shreveport: This paper must be read and re-read to get the real essence out of it. I want to touch on one point and that is the correlation between the X-ray findings and the clinical findings. This old dispute that has gone on for years as to whether the radiologist should give his readings in terms of disease and pathology or in terms of shadows, is a question that is not settled yet. The point I want to emphasize is that it has been my experience

that if the clinicians were to perfect their technique of interpreting their physical findings there would be no more argument between the radiologist and the clinician. My experience is that when we get up against a man who does not know the difference between the various percussion notes, etc., then we have the biggest argument. If a man knows what a *râle*, etc., means, ninety-nine times out of a hundred his findings will tally with ours.

EYES AND ENDOCRINES.*

By CHAS. A. BAHN, M.D., New Orleans; Professor Ophthalmology, Graduate School of Medicine, Tulane University.

The endocrines are the several organs which, though without definite duct channels, apparently act as glands, modifying in a more or less marked degree the function of other parts of the body. Of these organs, which probably have an internal secretion, the best known are the thyroid, parathyroid, thymus, pituitary, adrenal, ovary and testis.

The eye is seemingly influenced in certain forms of endocrin disfunction through decreased resistance and immunity, trophic, or pigment changes of its component parts, or by increased fatigue. This interesting relationship affords a fertile field for intelligent investigation, and a plausible explanation of many ophthalmic problems, developmental, pathological and therapeutic. The analogy is in a great measure based on the various interpretations which have been placed on a large number of more or less accurate clinical observations, experiments with the lower animals, and on a few definitely proven therapeutic and other facts.

We must not let our enthusiasm for or against the subject lead us into fanciful conclusions which interpret the generally accepted facts as we would wish them rather than as they probably are. Depending on the opinions which various authors have placed on observations, experiments, and accepted facts, the extensive literature on the subject may be classed as ultra-conservative, conservative, and liberal or somewhat imaginative, in which material motives occasionally seem an influencing factor.

With the exception of adrenalin, thyroïdin and pituitrin, the active principles of these organs have not been isolated, their chemical composition, properties, physiologic action, indications and dosage are not definitely known and they have not been generally accepted in the ophthalmic armamentarium. Unfortunately,

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it is not known that all of the various endocrin preparations are assimilated as administered and retain their activity when given in therapeutic form.

The interrelationship which must exist between the several endocrin organs, although not definitely proven, is a most interesting subject. Generally speaking, disturbances of practically every ductless gland seem to affect all others to a more or less marked degree; as illustrated in the hypophyseal, thyroid and other manifestations associated with menstruation, which can probably be considered as largely influenced by endocrin function.

The belief that each endocrin organ is either a stimulator or depressor of every other ductless gland, and that our physical, moral and mental qualities are but a reflection of our several endocrin functions opens a wonderful speculative field, which to the less imaginative, seems rather in the realm of fancy than fact.

The basis of specific endocrin medication is broadly the administration of the active principles normally furnished by the defective gland by means of animal gland preparations, or the administration of other gland preparations than that involved, with the expectation that the animal gland preparation will influence the deficient, disturbed, or overactive gland, indirectly through the other glands, causing the endocrin mechanism to right itself and function normally.

Investigation is needed to clarify accurate endocrin diagnosis, which at present is largely based on the resemblances that the patient may show to our somewhat incomplete conceptions of the various clinical pictures associated with ductless gland disfunction. Therapeutic diagnostic measures, as now used in hypothyroidism, etc., have future possibilities, though in objective tests such as the estimation of basal metabolism, etc., future advances seem more probable.

THE THYROID.

By increased normal function the thyroid affects the metabolic processes, cardiac activity, the sympathetic nervous system, and the function of other organs, especially the thymus, hypophysis and ovary.

In cretinism and thyroidectomized young humans and animals, mental and physical underdevelopment occurs, while in the more mature, certain metabolic changes predominate. Of these,

the more frequent are impairment of appetite and nutrition, emaciation, mental apathy, premature senility, and trophic ectodermal conditions such as falling of the hair, dryness and pigment changes of the skin, and inflammations which clinically resemble eczema.

Falling of the brows and lashes, eczematous lid inflammations, deep keratitis, certain types of cataract, uveitis, optic neuritis, and retinitis pigmentosa are the most frequent ocular conditions associated in the literature with hypothyroidism.

The favorable progress reported by some, absence of results, and unfavorable symptoms reported by others following thyroid administration show that the characteristics of these conditions specifically caused by endocrin disfunction are not understood and that more knowledge is necessary before thyroid treatment can be generally accepted at least in most of the conditions mentioned.

Rather interesting in this connection is the assumption that the action of the so-called alteratives, such as the iodides, etc., is essentially endocrin, which perhaps explains their favorable action in non-bacterial diseases and in the old, where glandular function is diminished.

Although clinical evidence suggests that the thyroid plays an important role, it is not known that defective immunity and resistance results from a specific dis or hypo endocrin function, rather than as a part of a general malnutrition in which the ductless glands also participate. Only a small proportion of those afflicted with congenital lues have interstitial keratitis, which is essentially an ocular manifestation, differing, however, in its course and resistance to treatment, from the usual leutic processes elsewhere in the body. The clinical resemblance of congenital lues to hypothyroidism and the excellent results reported following thyroid administration in certain cases of interstitial keratitis, have lead to the assumption that this corneal condition is essentially a uveal reaction to luetic toxins in persons sensitized by hypothyroidism.

Another class of ocular conditions, of which herpes and the dystrophies are the best known examples, are characterized by an apparent lack of vitality of the tissue, usually associated with anesthesia. The injection of alcohol into the nerve ganglia such as the Gasserian, produces a somewhat similar clinical entity,

it is believed, by destruction of the sympathetic nervous supply to the part involved. The pathological process in neither condition resembles that seen in the usual inflammations from other causes.

HYPERTHYROIDISM.

Graves' disease is essentially a hyperthyroidism, much more frequent in females and during the menstrual years; whose most common evidences are tachycardia, exophthalmus, tremor, thyroid enlargement, pulsation of the larger vessels, anemia, emaciation, flushes profuse perspiration, pigment changes in the skin, etc. These have been attributed to basic changes in the sympathetic nervous system because experimental stimulation produces a somewhat similar clinical picture.

The most frequent ocular manifestations are:

1. Protrusion of the eyes with widening of the palpebral opening (Dalrymple's sign), usually bi-lateral and varying from the slightest perceptible degree to that which prevents lid closure and causes ulceration from ocular exposure. This has been variously attributed to over-stimulation of the unstriated muscle tissue in the orbit and to vaso-dilatation, similar to the pulsation of the large vessels in the neck but modified by the inelastic boundaries of the orbit.
2. Decreased and imperfect winking (Stellwag's sign).
3. Defective convergence (Moebius' sign).
4. Inability of the lid to follow the eyeball down (Graefe's sign).
5. Tremor of the upper lid (Rosenbach's sign).
6. Difficulty in everting the upper lid (Gifford's sign).
7. Inequality of the pupils.
8. Increased retinal vascular pulsation.

These, too, have been attributed to sympathetic nerve disturbance.

Specific endocrin medication, including Rodagen and other preparation of thyroectomized animals, has not apparently met with the expectations of its former advocates. X-ray, radium and surgery are the most approved methods of treatment.

PARATHYROID.

Tetany and certain changes in the teeth, lens and other ectodermal tissues follow removal of the parathyroid. It has been assumed that these small glands play a more or less important

role in the development and nutrition of certain ectodermal tissues which show developmental defects resembling the clinical picture seen after parathyroid extirpation.

Among the most frequent is zonular cataract, which is most often seen associated with bad teeth and a history of childhood convulsions, and is characterized by perinuclear opacity, suggestive of a cause of very limited duration.

THE PITUITARY.

The association of the anterior lobe with skeletal, mental and sexual function and development; and the intermediate lobe, with sugar metabolism, is generally accepted.

The ocular manifestations of anterior hyper or dis pituitarism are usually those of pressure on the optic nerve at the anterior chiasm, rather than the result of interval secretion, although bitemporal hemianopsia is not the only field defect which has been observed. The closer proximity of the crossed fibres in the chiasm to the enlarged pituitary frequently results in pressure and degenerative changes in the nasal optic nerve and retina. The extra ocular paralyses, varying field defects, and amblyopias which have been described in patients with pituitary disease, are variously ascribed to increased intracranial pressure, local pressure from the enlarged pituitary and toxemia resulting from disturbed secretion.

It is possible that at least some of the objective findings mentioned are due to the reaction of one or more of the ocular tissues to degenerative products produced in the gradual death of the tissues which are affected by chiasmal pressure.

The relationship between diabetic ocular affections and general conditions resulting from intermediate lobe disfunction is not well established.

Pituitary preparations obtained from the anterior, intermediate, or both lobes seem to have but little effect upon the course of the ocular manifestations of pituitary disease, possibly, because they are the result of pressure and hyper, rather than hypo pituitary function. Surgery, X-ray and radium are the most approved modes of treatment.

THYMUS.

Children with general glandular enlargement, leucocytosis, increased fat deposit, under-development of the heart and aorta, and enlarged thymus have a marked susceptibility to bacterial

infection and increased liability to sudden death from apparently insignificant causes.

Aside from the increased danger of these children to sudden death during narcosis, there does not appear to be any direct relation between the thymus and the eye.

THE ADRENALS.

Certain types of glandular disfunction, as in Addison's disease, are closely associated with muscular weakness, gastrointestinal disturbances, and changes of pigmentation.

Aside from the pigment changes in the lids comparatively little has been clinically proven concerning the relationship which exists between adrenal disfunction and ocular disease, although pigment disturbances in the iris, uveal tract, and retina; glaucoma; and increased ocular fatigue have been mentioned in this connection.

Increased fatigue whether in the eye or elsewhere is one of the dominant symptoms associated with endocrin disfunction, as it is also, of most local and constitutional affectations; hence it is apparently over-stepping the bounds of probability to assume that glandular disturbance is a cause of major importance.

The use of adrenalin is practically limited to surgical and diagnostic purposes. Its indiscriminate use in temporarily lessening the injection accompanying various ocular inflammations is to be strongly condemned as it has no curative properties and a momentary cosmetic benefit derived by the blanching of the ocular tissues is more than counter-balanced by the secondary vaso-dilatation which inevitably follows and which may become permanent following continued use.

THE OVARY.

Aside from the retinal changes associated with the albuminuria of pregnancy and perhaps the rare ocular manifestations attributed to vicarious menstruation, our knowledge concerning any direct relation between the eye and the ovary is more or less conjectural.

Favorable results have been reported in a few cases following the administration of ovarian preparations in various ocular fatigue symptoms, especially during the climateric adjustment. Whether or not they were the direct results of the treatment cannot be determined.

OTHER ENDOCRIN ORGANS.

Among the other organs to which have been attributed an endocrin function are the spleen, liver, pineal body, faucial and pharyngeal tonsils, testicles, prostate, etc.

So little is known concerning their specific functions from an endocrin standpoint or any relationship that may exist between this function and the eye, that more than passing mention hardly seems justified.

CONCLUSION.

The purpose of this contribution has been a simple and sane presentation of one branch of this interesting subject in its present evolution, for the general physician. At this time, its value lies more in a better understanding of the patient and the ailment than as a means of indiscriminate therapy based either on hypothetical deductions of unproven facts or as an excuse for inefficient examination and diagnosis.

Much intelligent investigation, accurate observation and prolonged study of endocrin function and disfunction is needed before the ductless glands can take their proper place in medical science.

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TREATMENT OF PYELONEPHRITIS BY PELVIC LAVAGE.*

By Dr. M. H. FOSTER, Alexandria, La.

I. INTRODUCTION.

The scope of this paper will be limited to the consideration of the inflammations of the renal pelvis with their associated kidney involvement exclusive of trauma, tuberculosis, and the results of back pressure from urethral strictures, and prostatic enlargements. Probably the most readable and comprehensive contribution to the medical literature of recent years has been made upon this subject by Frank Kidd, of London, and we hereby acknowledge this authority for numerous quotations made use of in this paper.

It has been stated that the profession is not sufficiently informed concerning pyelitis, and that cases of infected pelvis remain in the different departments of our large hospitals as unexplained causes of pyrexia. That this should seem to be true is unfortunate, for nothing responds more rapidly to suitable treatment.

From my acquaintance with them I believe that the thinking members of the Louisiana State Medical Society are alive to the importance of pyelonephritis, and I know several urologists in our own state whose management of the kidney infections ranks their services with our best—foreign as well as domestic.

During the less than three years since my return from the army to develop a urological service in Alexandria, I have been deeply gratified by the co-operation of the hospitals here, and by the sustained encouragement of the medical profession, both of Alexandria and from our neighboring communities, and I believe this is an appropriate occasion to publicly thank my conferees for their interest and support.

The average human kidney is made up of ten to twenty lobes containing in the aggregate one-half of a million glomerular capsules, and fifteen miles of urinary tubing. It is not so much of a wonder, then, that we sometimes have pipe troubles, but rather that we even succeed in keeping up the plumbing at all!

Considered from several standpoints, the renal organ is truly a marvelous mechanism. By way of comparative anatomy we note that the crustacean possesses a fused cephalothoracic cavity

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almost entirely filled by a pair of renal organs. He is an aggressive scavenger and needs a large filter plant!

By way of evolution, we find lower vertebrates with compound racemose renal glands—many lobes hung more or less loosely together as a bunch of grapes. And in human embryology we have an emunctory appliance which presents striking variations as to number, location, and as to the source and distribution of its blood supply.

While we commonly recall that the testicle descends from the pelvis to the scrotum during fetal life, we should also bear in mind that during the same period the kidney is undergoing differentiation and migration to a home on higher ground, and that it fails to establish itself in a normal location more often than does the testicle.

Dr. Rand has just referred a case in which the ureters are unusually short, both kidneys dystopic, and there appears a kink at the ureteropelvic junction which may be due to a low-lying left renal artery producing a so-called sanitary trap obstruction to free drainage, and resulting in chronic pyelitis.

II. ETIOLOGY.

But all these embryologic and anatomic factors are but adventitious influences in effecting pyelitis. The direct causes are stasis and infection, and the bulk of evidence is in favor of the conclusion that they work together. It has been repeatedly proven that under normal conditions germs are filtered from blood to urine without causing damage to the kidneys, but if the ureter becomes obstructed, pyelitis will result. While the kidney of pregnancy is the most widely recognized, yet it is not clearly understood by all medical men. We hasten to agree with Cabot that, pathologically, it is not a distinct type, but is the result of renal stasis from a mechanical condition, *i. e.*, pressure from the gravid uterus after it rises out of the pelvis and rotates toward the right, therefore it is usually seen between the fifth and the eighth month and is commonly a right-sided pyelonephritis.

Again, if an overwhelming amount of infection be suddenly fed into the blood, the filter plant will become clogged and pyelonephritis follows. That there is a direct lymphatic connection between colon and kidney is no longer doubted, and Japanese investigators claim to have traced lymph radicles from the capsule down through the cortex into the medulary substance. Asch has

produced pyelonephritis in dogs experimentally by feeding them a sufficient amount of opium to maintain colonic stasis. Kidd says that the typhoid bacillus exhibits a penchant for the spleen, but the colon bacillus exhibits a marked preference for the kidney. Granville McGowan, of Los Angeles, says that colon bacillus infection of the kidney, persistent and unyielding to treatment, is invariably due to colonic stasis of the fecal current, and that the interruption is usually in the cecum being immobilized by adhesions. Fluoroscopic examinations have corroborated this condition in our own service. Other organisms which may produce pyelitis, are the staphylococcus, streptococcus, more rarely the proteus vulgaris, and occasionally the gonococcus. In 1911 Caulk, of St. Louis, called attention to the characteristic incrustations in the bladder following proteus pyelitis and also to his treatment with bulgara bacillus. I have seen this type of infection while working in Caulk's service at the Barnes Hospital, and also treated a case here last year, which was referred by Dr. Antony.

III. SYMPTOMS.

Pyelonephritis is encountered as both acute and chronic. The typical acute case may come on in an individual who is quite healthy and active, by sudden and severe bladder irritability. There will be frequency, urgency, dysuria, and sometimes hematuria. English writers use the word "Strangury," and Kidd says that while strangury in the male may mean posterior urethritis, in the female it is nearly always due to pyelitis. "Bladder symptoms are common in appendicitis, for pyelitis secondary to appendicitis is common, and because pyelitis has been wrongly diagnosed as appendicitis."

Then there is another class of cases more numerous and severe than the preceding group, in which pyelonephritis of a fulminating character will occur as an intercurrent infection in addition to a previously existing malady, and immediately assume a position of prime importance and gravity. The prodromal lesion may have been one of the acute systemic infections, more rarely a chronic pus infection, or what I especially wish to emphasize by a synopsis of case histories a little later, as a metastatic pyelitis after abortion, miscarriage, and labor. Here there is a sudden chill, high fever, pain in the region of the back and pubis, gastro-intestinal disturbance, and leukocytosis as high as 90%

or more. Dr. Foster Johns insists that in pure colon bacillus infection of the kidney leukocytosis is not the rule, even though ureter blockage may follow pus formation. They may not all have chills, but when they do they are sick folks. There will be a marked tenderness to fist percussion over one or both loins according to involvement.

There is also a class of chronic pyelonephritics which, like the poor, we have with us always. As a class they present no constant set of subjective symptoms. They may be symptomless for months and years. Others may present acute exacerbations with surprising regularity or periodicity. Some of these will be treated for malaria, and some for tuberculosis (according to the preference of the doctor), while others will find their way to the spiritual or mechanical healers. But their story can always, and only, be told by the cystoscope, ureteric catheter and microscope, in the order named.

IV. DIAGNOSIS.

There can be no pyelonephritis without pus in the urine. Its occurrence and quantity may vary, but its presence never. At the onset of a fulminating attack pus may not be present in the voided urine because of a blocked ureter, but wait until a little later, or catheterize the ureter and you will get urine that is rank and rotten. With some experience to the contrary, I am unable to accept the statement ascribed to Crabtree, of the Massachusetts General Hospital, that colon bacillus infection of the kidney though frequently resulting in pus formation in the dog, does not do so in man. Red blood cells alone in the catheterized urine are conclusive of nothing, casts are not found without tubular involvement, and it is fatally easy to detect a little albumin in the urine and condemn somebody to a kidney diet, early death, and no insurance. Therefore the urine should be studied first as the gross voided specimen, then cystoscopic inspection of the bladder should be made for evidence of ureteral involvement, and the ureters catheterized for purposes of differential diagnosis and treatment. Urine thus obtained should be microscopically studied under both the high dry, and the low power objective, in slide suspension, and stained film preparations. Mercurochrome 1½% for ½ min. has recently come into use among urologists for this purpose. Occasionally I want a urine cultured, but as I have previously pointed out, bacteria are be-

ing filtered through the healthy kidney with frequency, and cultures may therefore be misleading.

Malar, of the London Hospital, in cultures of the blood to prove the hematogenous transmission of the infection from a distant focus to the kidney has obtained indifferent results, because of the rapidity with which the organisms of a given invasion pass out of the blood stream. But Crabtree, of Boston, claims positive results in 30% of his cultures only when blood is taken during the chill.

All of the above groups are apt to show no marked diminution in the renal function either in the time of appearance after injection of Phloridzin, or in the phthalein output. This is in marked contrast to another group which I have christened the "Back-water or Pressure Pyelonephritics," produced by chronic urethral stricture and prostatic enlargement, the prostatitis showing the greatest diminution of function and the urethral strictures a relatively moderate amount.

V. TREATMENT.

Nearly half of the cases get well spontaneously, but the remaining 60% should be classified according to their requirements as medical, surgical and urological. In the acute cases that will respond promptly we prefer to withhold instrumentation until their activity subsides. They are put to bed with free catharsis, and the tissues are copiously washed free of the toxins with five or six pints of fluid daily. Potassium citrate in 40- to 60-grain doses is given with sufficient frequency to make the urine alkaline and then keep it so. In cases where the stomach tires of this the following will be found more acceptable: Potassium citrate 30 grains, magnesium citrate, and magnesium carbonate each 20 grains, potassium bicarbonate 10 grains.

After eight or ten days on the alkaline treatment we give them a day's rest off of treatment if the temperature is normal and begin hexamethylin with acid sodium phosphate, for it must be remembered that it is useless to give urotropin without a urinary acidifying agent.

Under the leadership of Kidd in England and McGowan in this country, it is now becoming the vogue to do meso-colonic shortening in the cases of chronic B. Coli infection from fecal stasis due to visceroptosis. We urologists admit that these are intractable cases, and that we fail to clear colon bacilli from their

pelves and keep them clear even after years of effort in some, nevertheless the writer entertains the hope that he will not be considered reactionary if he requires some proof of our surgical brethren that the ptotic colon will remain hung and continue to function efficiently after they have attached it to higher pegs. The cases above have been under observation for but a few years at most and we have not fallen headlong for the most radical plan. In cases where the fluoroscope shows that the colon is not yet immobilized by adhesions, or where improvement results from its use, we first apply an abdominal support properly fitted to the individual wearer, and then if this fails of relief we can resort to surgical measures with a clear conscience, confident that no one has been done an injustice.

“That chronic pyelonephritis is often cured by pelvic lavage deserves to be widely known, for I believe that at the present time it is the only cure for the chronic cases.” It has been some 35 years now since Pawlonic, of Vienna, and Howard Kelly, on this side, passed a catheter into the ureter for the first time, and it was in 1906 when Voelcker, of Heidelberg, accidentally obtained a leakage of collargol up into a ureter while doing a cystogram. In 1911 Koll, of New York, advised the treatment of pyelitis by the instillation of aluminum acetate, and in the same year my former master, Caulk, of St. Louis, brought out his treatment of pyelonephritis produced by *proteus vulgaris* with cultures of *bulgara bacillus* introduced through the ureter catheter. Since then the progress of lavage has been extensive, and its results are often dramatic, until the time came when it seemed desirable to check up the various agents in use for instilling into the pelvis with a view of ascertaining, if possible, their relative efficiency. This was done last year by O'Connor in a series of 30 dogs. They were injected with the various drugs, in some instances the ureter being ligated to insure continued and maximum effect, then the dogs were killed on stated intervals, and the region of the pelvis studied in each case serially. Mercurochrome was found to penetrate entirely to the renal cortex, and evidence of its presence remained longer than any other drug. Silver nitrate was found to entirely destroy the mucus membrane, with complete exfoliation of the pelvic and calyx lining after using the stronger solutions (5%), but this was perfectly regenerated in the dogs killed two weeks after treatment.

O'Conner's conclusions were not positive for the definite superiority of any one drug, but his impressions have been largely concurred in, in that the best results appear to follow the use of several drugs alternately. For this reason I often inject a heavily infected kidney at the start with silver nitrate 1.500 to 1.100, and at the next treatment may select either mercurochrome 1% to 2%, or sylvol 10%. Aeriflavine, argyrol, etc., may also be used, but it seems rational to reserve the astringents (zinc and aluminum) until after control of the active infection, just as we do in urethritis. Lavages should be repeated at intervals of five to ten days, or more in the chronic cases, but for reasons stated above silver nitrate, at least in the stronger solutions, should not be repeated under two weeks. In the presence of obstruction or virulence, the catheters may remain in the ureters for one to four days, and the pelves repeatedly irrigated at convenient intervals as desired.

Finally, it is desirable that the referring physician remind our mutual patients that they are neither slot machines nor boiler iron and therefore complete repair cannot result from the first treatment, but that the urologist will care for them gently, and with due regard for their tolerance and safety.

DISCUSSION.

Dr. H. W. E. Walther, New Orleans: This paper was intended for the edification of the general practitioner. The essayist did not intend to leave the impression that every case of pyelonephritis requires pelvic lavage for cure. He stated that many of them got well without cystoscopic therapy. That is where you use your usual urinary antiseptics combined with forced water drinking, with rest and eliminative treatment. But where you are dealing with obstruction to the outflow of urine from the kidney pelvis, where there is stasis in the kidney pelvis, the case will not be relieved by medicinal measures and cystoscopic therapy will be necessary.

There is no question about focal infections playing a large role in these cases. I think about 90 per cent are due to the colon bacillus. The colon bacillus is often in other places besides the kidney—either in the bowel, the teeth, the tonsils, or the prostate. If these other foci are not cleared up you will have a hopeless job attacking the kidney alone.

There is no doubt of females being more prone to these troubles than males. Of course we must have a catheterized specimen of urine from females. I brought out before the society two or three years ago the necessity of catheterizing females in studying their urine.

These cases cannot be cured with one or two lavages. It requires time to cure these cases. Albumin is always present in the urine where you have pus, blood or bacteria; you cannot tell what the albumin is due to until you rule them out. I do not believe in culturing urine. Fresh centrifugalized specimens stained are much more valuable than cultures.

I want to emphasize the value of pyelograms in cases of obstruction. You may think you have a simple pyelonephritis when in fact you are dealing with some ureteral abnormality and there the pyelogram is of the utmost value.

Catheters can be left in kidneys twenty-four hours or longer for purposes of continuous drainage.

A new internal urinary antiseptic is acriflavine. It is better than urotropin. Give 0.46 grains doses by the mouth, t. i. d. Use a refined product that will not irritate the stomach and gastro-intestinal tract.

I believe the new plan used by many urologists of washing out the kidney with mercurochrome at one sitting and then alternating with silver nitrate solution at another sitting is the ideal method of local treatment.

Dr. M. H. Foster, closing: In reference to Dr. Cather, it will be recalled that I just made the statement that 40% of the common kidney pelvis infections tend to spontaneous recovery. His chances are just six against four that a sudden exacerbation at any time will send him to the urologist with an urgent plea for active treatment abruptly and with precision. It is very interesting to note that this is what actually occurred six days later.

Now, I wish to add a brief synopsis of three cases of pyelitis by metastasis from another focus of infection in the body.

Case 1 (Referred to by Dr. Gremillion): White female, 36, married. Diagnosis, appendicitis. Urine very cloudy and offensive, pus and albumin found. No. 6 catheter introduced to pelvis of both kidneys. On the left clear urine came out with normal rhythm, catheter withdrawn. As no flow occurred from right catheter it was left in place over 24 hours and drainage later established by suction. The urine was thick and offensive, and appeared to be more pus than urine. Treatment: lavage with 10% Sylvol four times. Result: Patient claims more comfort than she has experienced in several weeks. (Comment: Operation revealed a retroperitoneal chronic obliterated appendix. The first diagnosis was correct, but present acute symptoms caused by secondary focal infection. Pyelitis with appendicitis is rather common.)

Case 2 (Referred to by Dr. Peters): White female, 23, married. Diagnosis, pyelonephritis. Malignant malaria last November, abortion, sepsis. This woman was emaciated and desperately ill in spite of all that was done by skillful management as a medical case. Cystoscope revealed inflamed bladder, swollen and pouting meati, urine cloudy, showed pus, and cultured pure *B. Coli* from both sides. Treatment: lavage 6 to 14 days apart, alternating 2% Mercurochrome, ½% Silver Nitrate, and 10% Sylvol, six times. Result: temperature dropped within an hour after first lavage, and did not again return except on brief periods and for explainable cause (colonic stasis, and house robbed one night), average gain in weight five pounds per treatment. Total gain more than 30 pounds. (Comment: Violent constitutional infection complicated by abortion, operation and opiates necessary. Retention of urine during several days, catheterized as required. Positively no blame on competent nurse with sterile catheter. Kidneys with impaired drainage must inevitably succumb to violent and prolonged bacteremia.)

Case 3 (Personal): White female, 21, married. Diagnosis, abdominal tumor. Thirteen-pound ovarian tumor removed by Batchelor, 1914, fourteen-pound cyst removed by us, February, 1922, abortion five days later, followed by mild sepsis. Leukoctyosis, pyuria. Treatment: Alkalies, and diet until subsidence of acute symptoms. Cystoscoped. Bladder normal. Left meatus pouting and slightly dilated, pelvis capacity about 20 cc. P. S. T. 30% first hour. Right meatus edematous and widely dilated, pelvis held over 40 cc. com-

fortably. P. S. T. 4%, 1 hour. (Comment: Continuous pressure from large abdominal tumors, most of her life practically destroyed right kidney. Pyelitis, bilateral, hematogenous, following abortion. Infection cured by pelvic lavage, function not increased. Infusoria, both paramecia and vorticella type, found in urine. Significance unexplained.)

ORBITAL ABSCESS.*

By JOHN L. SCALES, M.D., Shreveport, La.

When I selected the title of this paper some months ago, more or less haphazardly, I had in mind a group of cases that had proved interesting to me, and I jumped to the conclusion that they might be of general interest; but review of the literature of the past year available to me has raised a doubt in my mind, because I have been able to find only one paper on any phase of the subject, and I have concluded that such cases are so common as to attract little attention, or are rarer than I had thought.

For the purpose of this paper, the term Orbital Abscess, or more properly speaking, orbital suppuration, is not intended to describe any definite surgical or medical entity, but to include all those suppurative conditions found in the orbit, external to the globe itself.

It is generally conceded, I believe, that such conditions as I have in mind are due either to extension by:

Continuity of tissue; the lymphatic system; the circulatory system.

Antecedent infection in the nose or one or more of the nasal accessory sinuses is the probable starting point in most cases, the Ethmoid, Frontal, Sphenoid and Maxillary sinuses being most likely to be found responsible in the order named.

There is undoubtedly a certain number, and I am inclined to think it is not inconsiderable, in which the source of infection can not be definitely determined.

Where there is a direct transmission through infected tissue, as for instance the bone between the ethmoid or frontal cells and the orbital cavity has broken down, there can be no question of the avenue of approach; where there is infection in the adjacent cells but no appreciable avenue of communication, there is room for debate. I have seen it recently suggested and apparently proven by study of microscopical sections that the

*Read before the Louisiana State Medical Society Meeting, April 11 to 13, 1922.

transmission of infection in such cases is by phlebitis of the veins communicating between the nose and the orbit; which would seem reasonable enough.

There are some cases in which it is as difficult to say why the orbit is invaded, as to say why any abscess elsewhere on the body should select its particular site.

I shall report briefly several cases illustrating some of the types classified above, and also show the difference between the acute and chronic types: I shall not touch on the subject of differential diagnosis, assuming that this more or less troublesome question had been settled satisfactorily in advance:

1. Ernest P., col. male, aged about 25, presented himself with a large fluctuating mass at the inner border of the left orbit, which had displaced the eye to some extent, but had not seriously impaired the function; he stated that the condition had existed for a number of weeks, and because of the chronicity, doubtless, there were no evidences of acute inflammation; he further stated that at times the mass would decrease in size, at which times there would be discharge from the left nostril—it apparently did not require a Sherlock Holmes to say that this particular case originated in the ethmoid cells. A free incision showed, however, that it began in the frontal, the whole floor of which had been destroyed, as well as all the bone intervening between that and the ethmoid. A large abscess enclosed in a thick pyogenic membrane had eroded the bone so that what had been the frontal sinus and its bony passage into the nose, together with the ethmoid cells, had been converted into one large smooth cavity. A thorough curetting with a free drainage through and through cured this case, and some months later the destroyed bone seemed to have regenerated itself.

2. Velma E., female, aged 13, white, a well nourished child, presented a sinus of the right upper lid near the inner canthus, which showed the earmarks of a bone necrosis; she gave the history of having had a phlegmon of the lid on each side which had been lanced—the left healed, but the right continued to discharge.

A rhinoscopic examination showed ethmoiditis of the right side and the X-ray showed the other sinuses on that side clear and all clear on the left.

A free incision done on the diseased area showed the ethmoid and turbinates on that side full of pns and polypi. Free drainage relieved the trouble promptly, but I am told that the condition subsequently recurred on the opposite side.

3. The case of Christine A., white, aged 6, female, illustrated an aberrant type, so far as my classification goes, and she shows what may come from bad teeth though it was not exactly an orbital suppuration. The child had a decided etropion of the left lower lid, due to a chronic suppurating sinus.

The antrum was clear on transillumination and X-ray, but at the lower end of the sinus, discharging inside the cheek, were several badly placed and decayed teeth.

The sinus burrowed along the outside of the sup. max. bone and did not enter the antrum, although a large sequestrum, together with several teeth were curetted away. Just why the sinus should have taken this direction I am unable to say.

The following cases hold the most interest for me in several points of similarity, in that the source of infection could not be found, and because they show how much interference the eye will stand without permanent injury to vision:

1. Baby K., 3 or 4 years of age, I saw in consultation with Dr. Oden. The doctor had treated him for a week, or more, for a mild nasal pharyngitis when the left eye began to show signs of inflammation, redness, edema of conjunctiva, protrusion of the eyeball and swelling and redness of both lids; he ran a mild temperature, but had no other evidence of constitutional involvement. It had not been possible to make a reasonable diagnosis of the intra-nasal, or accessory sinus infection. Smears and cultures from the nose showed only the usual organism. Eventually an exploratory incision was made deep into the orbit, both below and above the globe, evacuating thick pns from both incisions. The tracts went down upon the bony walls of the orbit, but bared or necrotic bone could not be found in either. The superior one closed promptly, the lower one drained for weeks, but finally both healed perfectly and permanently. There was no impairment of function of the eye, and but little deformity remaining from scar tissue.

2. Ardie P., white, male, aged 13, came on July 21, 1921, with the history of having had a swelling begin in the left eye

10 days before; he had a temperature of 100 and seemed to be a very sick boy; he was suffering much pain in the eye, which was red, edematous, swollen and markedly protruding so that the lids were stretched tight over the globe. The vision was 20/70—movement impaired. The ophthalmoscopic examination was negative, except for somewhat tortuous and enlarged veins. The nose and sinuses were negative on rhinoscopic examination and clear on transillumination and X-ray. It was necessary to do a cantho-plasty in order to gain access to the orbital cavity. A deep incision below the globe disclosed a small quantity of thick pus. A careful probing failed to disclose necrotic bone anywhere. At the end of one week the wound was still draining with much edema and considerable protrusion of the globe, but the constitutional symptoms having subsided and the local symptoms improving the patient went home. A month later the wound had healed, the protrusion of the globe was less and the vision 20/30. At the end of the 2nd month the vision was 20/15, a slight but noticeable protrusion of the globe remaining.

I think we are justified in concluding from such cases as these that suppurative conditions of the orbit are not uncommon; that the eye is remarkably tolerant of such suppurations, bearing in mind, however, that grave results may follow from secondary involvement of the optic nerve and other eye structures; that proper attention to acute and chronic infection in and about the nose will anticipate and prevent many of them; that radical and early surgical treatment is both justified and advisable.

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EDITORIALS.

DR. C. C. BASS, DEAN.

Dr. C. C. Bass has been appointed Dean of the Tulane School of Medicine. Since the foundation of the school, nearly one hundred years ago, its Dean has been regarded as the leader of the Medical Profession of this section of the country. This was largely due to the position, but has been maintained by the fact that the successive Deans have been men of the highest character and attainments.

We believe that in selecting Dr. Bass, the administrators of the university have chosen one who will take his position and administer his office with the same high ideals, and the same energy and integrity as those who have preceded him.

The choice is particularly agreeable, we believe, to the medical profession, as Dr. Bass is widely and well known all over

the country, and is familiarly known to the local profession as a scientist of unrivaled repute. We believe it would have been a disastrous mistake to select any but one of our own graduates, a fellow practitioner and citizen, for our leader; in fact, if Tulane cannot produce men in every branch fit to occupy any of her highest positions, she certainly is not fulfilling the bright dream that her sons and daughters have dreamed of her, and that we believe is on the brink of its complete fulfillment.

Dr. Bass has twenty years or more of service to the college and the profession before him, and we predict that these will be the brightest years in the history of the school.

It must always be borne in mind, however, that no great advances can be made in organization of the teaching and research until funds are available, and Dr. Bass can be expected to make few changes at the present time. With his ability, and the confidence and good will of the profession, the teaching staff and the student body, only brilliant success can await him.

CHAILLE JAMISON.

THE CIRCLE.

It is only when some untoward thing happens that the average of us is brought face to face with a realization of the continuous action of the laws of nature—and also that gross violation of them simply means death.

A rather common summer and fall sport in our Southland has been to accuse farmers and others of poisoning fish in large numbers.

The newspapers frequently carry such reports and recently we saw one such report, where thirty farmers had been arrested for this offense in one locality.

About twelve years ago enormous numbers of fish, of all kinds, died in Lake Maurepas, Pontchartrain and tributaries, the wave of death making a circuit of the shores.* There were so many dead fish floating in these waters that one almost wondered that there had been so many in the world. The extent of destruction may be visualized when you realize that on this occasion nineteen railroad carloads of dead fish were removed from the section of the New Basin Canal, New Orleans, extend-

*See report of Hamilton P. Jones, M. D., in the Bi-Annual Reports, State Board of Health.

ing from the I. C. Depot to the Half Way House. It was charged that these fish had been deliberately poisoned by man, just as tuberculosis among the French soldiers was attributed to the machinations of an active human foe and as was our more recent influenza scourge, but none of these tremendous destructions could have come about except through the effect of entirely natural phenomena. So far as the death of the fish is concerned, this is what occurred.

Conditions of food supply, heat, light and all that goes to create environment being favorable to the growth of a particular algæ, in this case the water plant *Amabena Flos Aquæ* (frequently seen in water as a light green silky veil). It multiplied prodigiously until overcrowding occurred, food ran short, environment became unfavorable and the Algæ died.

Dead things are the principal food of bacteria, most numerous and ever present are the putrefactive bacteria, saprophytes, which are generally ærobic.

The saprophytes, living on the dead Algæ, increased in numbers because of their now favorable environment, but being ærobic, they had to have oxygen to live. Naturally they took it from the medium in which they were, namely the waters of the lakes. Their number being great enough they entirely denuded the waters of its dissolved oxygen, upon which fish depend for their oxygen supply, and quite naturally the fish died of oxygen starvation, the environment for the fish now being changed.

This is the gross outline of the phenomenon. But how many steps were there? How many types of bacteria each doing its mite towards change, or preparation of a more or less favorable environment for their successors? Not one single element concerned in bringing about any phenomenon is independent of any other element concerned. There is no single causative factor for a disease—no one organ is independent of any other—they interlock and are absolutely related. You cannot have a disease of the teeth only, of the ovary, or of the gall bladder. Interdependence, and endless cycles, seem to be the inexorable law for everything, man included.

HAMILTON P. JONES, M. D.

SOCIETY PROCEEDINGS.

**PROCEEDINGS
OF THE
HOTEL DIEU STAFF.****Monthly Meeting for April, 1922.****The President, Dr. Homer Dupuy, in the Chair.****URETERAL STONES.**

DR. H. W. E. WALTHER exhibited a large collection of ureteral calculi which he had removed by intravesical manipulations through the cystoscope. He also exhibited his flexible metallic ureteral sound with filiform guide which he had devised for surmounting so-called impassable obstructions in the ureter.

He called attention to the fact that at least 90 per cent of ureteral stones can be removed by non-operative procedures by the urologist; that many conditions causing vague abdominal pain are erroneously diagnosed appendicitis, cholecystitis, etc., when the true condition is stone in the ureter. He contended that the X-ray was not employed by the clinician as assiduously as it should be. Then too the microscopic urinary findings are passed upon too lightly. Some physicians actually feel that a few blood cells in a urine is perfectly normal. Such is not the case.

It is the cystoscope and the ureteral catheter however that are of paramount importance in the accurate diagnosing of ureteral stones. The speaker stated that he did not use wax-tipped catheters, (whereby one is supposed to diagnose stone by the scratch marks on the wax), because of the difficulty of interpreting accurately such marks. He placed chief value on (a) X-ray findings, (b) urine findings, and (c) ureteral catheter meeting with definite obstruction at point, that with aid of X-ray, makes one feel reasonably certain is a stone.

DR. MAURICE COURET agreed with Dr. Walthers that frequently we dismiss too lightly the presence of a few red blood cells in the urine.

Of course we should be sure that their presence is not from some physiological phenomenon for example, menstruation, or the result of trauma to the ureters bladder, etc., with the cystoscope. In the absence of these factors, even an occasional blood

the correction of deformities like bow-legs, knock-knees, cross-eyes and other unsightly things about the human economy. They do no harm in themselves with the exception of breeding timidity yet are unsightly to the eyes of others.

Dr. Levy felt that the operation for correction of deformed noses for the general surgeon accustomed to doing plastic work was so simple and the results so gratifying, that he predicted it would be but a short time when the general plastic surgeon would be doing Rhinoplasties.

The Operation: Local anesthetic is used—Novocain preferably, with additional Adrenalin. The nose is thoroughly anesthetized by infiltration from within the lower half and without the upper half, all the way from the tip of the nose to the distant point in the mid-orbital plate. If deviation of the septum is present, it is corrected by submucous resection. Incision is made from the tip of the nose to a point just short of between the brows and is carried down on the sides, raising the tissues from the nasal bones. All of this work is done from within the nose by special pointed scalpel elevators. The field is then open and by palpation and with a special saw, the hook is sawed off and with Joseph's rasps, the bones are rasped down to a smooth surface to their normal size. The tip of the nose is then elevated or lowered by removing a triangular piece from the septo-nasal junction at the tip. It is shortened by the width of that part removed. At this same exposure bones can be raised or grafts can be placed correcting the visual nose deformity.

While this is a comparatively new operation, there is no case that should take over one hour to do.



I.

RHINOPLASTY

II.

Showing case II. before and after operation.

DR. WILL PATTON called attention to the fact that Dr. Levy was mistaken when he said that a sub-mucous is an easy operation. He also stated that every Ear, Nose and Throat man was

doing rhinoplastic work unbeknown to Dr. Levy. The hump nose presents the fewest operative difficulties. The type of cases which call for skill are those in which there is a previous fracture of the nasal septum high up. The septum in such instances is twisted to one side with a crooked outline on the outside. Dislocation of the ala of the nose and other anterior deformities offer many more difficult mechanical problems than we get in the simple hump on the external surface of the nose. Dr. Levy's results as shown by these pictures are most excellent.

RAYNAUD'S DISEASE

Case Report by Dr. Jerome Landry.

Male, 42 years of age, admitted to the Hotel Dieu August 23, 1921. Family and past history are negative.

Eight months ago, December 23rd, came home at night complaining of severe pain in big toe: this member was cold. Thinking the sharp, shooting pains due to exposure to rain and cold, little attention was paid to this condition, but the next day pain had increased and four days later he consulted a chiropodist, with no results. He began going the rounds of different doctors and hospitals and was given the usual treatment, including intravenous injections of Ringer's solution, salvarsan and other anti-luetic treatment. He was sent to Hot Springs for baths, but all this without any relief.

During this time, from December 23rd to September 2nd, patient did not once sleep in a bed, but was supported on crutches against the wall, or for a few minutes in a chair, on account of the agonizing pain experienced whenever the feet were put on a level with the body. He was given large doses of aspirin, whiskey, codeine, morphine and other opiates, which gave practically no relief.

The patient is anemic, has a tired, worn expression, is very nervous and excitable, and there is edema of both lower extremities from the knees down.

There is gangrene of both big toes: the right is moist, the other more or less dry, both very sensitive.

September 2, 1921, under gas anesthesia, a disarticulation of the right big toe, through the first metatarsal and cuneiform bones, was done. Nothing was done to the left, waiting to see what this operation would do.

Progress Notes:

September 2, 1921—This night patient slept in bed for the first time in nine months. Some little pain, but not much.

September 3, 1921—Edema of both legs gone.

September 4, 1921—Without pain. Temperature 102. Sutures all removed on account of some infection.

September 5, 1921—Other toe drying. From this time to present date patient has gradually improved. Sleeps well and has not taken any opiate, aspirin, etc. What was the cause of the other toe healing? Was it due to the rest in bed causing the edema to subside by relieving pressure on the vessels?

August, 1922—Patient back at work again.

Laboratory Reports:

Complete laboratory examinations made, including cultures for all types of organisms, blood and urine. Tissue examination shows

obliterative endarteritis and endophlebitis (Raynaud, however, claims he was never able to find any changes in the vessels).

In 1862, Raynaud contributed to medical literature his "Thesis"; in 1872, "Gangrene," and in 1874 his "New Researches."

His attention was first called to this subject by a case of spontaneous symmetrical gangrene which came under his observation in 1861. He was able to get together twenty-five cases upon which to base his thesis.

He believed that the condition was brought about by the continuous spasm of the arterioles and venules. He also pointed to the abnormal irritability of the vasomotor centers.

It has long been known that under the influence of cold the fingers may undergo a change of color, becoming white, and even blue. This condition has been designated the dead finger (*digiti mortui*). Raynaud called this local syncope, and others, such as (Weiss) local anemia, or (Barlow) regional ischæmia.

Raynaud applied the term local asphyxia to the affected part when it manifested a blue appearance; Weiss suggested the term regional cyanosis and Barlow that of local cyanosis. Symmetrical gangrene is the culmination and one of the distinctive features of Raynaud's disease. Raynaud's clinical tripod then is local syncope, local asphyxia and symmetrical gangrene.

Symmetrical gangrene is not a common disease. Local syncope and local asphyxia, or either, may occur for years and then disappear without any manifestation of gangrene. The disease may occur as a pure neurosis, or it may be associated with a great many other conditions. Hysteria, tabes dorsalis, syringomyelitis, spinal tumors, syphilis, diabetes, erythromelalgia, the breaking off of morphine, etc. are all important etiological factors.

Local syncope comes first in the trinity of symptoms. It may exist alone or it may be associated with local asphyxia, a very frequent combination, or the three symptoms may be present. Numbness and stiffness in the digits affected may usher the attack, or there may have been in the extremity, or parts involved, for days or even weeks previous, severe pain which is intensified as the attack develops.

The seizures are paroxysmal. The parts involved become paler, even corpse-like; they do not bleed when pricked, are cold, and movement is difficult. The latter, Raynaud suggests,

is due to the defect of afferent impulses and not to muscular weakness. The nose, cheeks, chin and ears are seldom invaded. The condition is seen more often in the extremities, i. e., feet and hands.

Local asphyxia may, or may not, be attended with pain: often this is absent unless the cyanotic part is handled. The pain at times becomes neuralgic in character, or it may be continuous, and it varies from a slight discomfort to an intense agony.

Symmetrical gangrene is the last and most important of this trinity of symptoms, although it may occur unilaterally. Desquamation of epithelium may be the only evidence of necrosis. Raynaud described a peculiar type of blister, a large bulla, of a deep brown color when dry, due to the gangrene of the papillary layer of the derma. Necrosis may attack one or more of the phalanges of the digits, or a portion of the foot, or even the entire foot. In one of the cases reported both legs became gangrenous.

The prognosis of Raynaud's, as a rule, is good, and when associated with other morbid conditions it is that of the underlying disease. The Scotch verdict "not proven" should be applied to those cases which are reported cured.

The Treatment: The underlying cause, of course, should be removed if possible.

Atropine has been used with more or less benefit, given with the idea of relieving spasm of the vessels.

Koga, of Tokio, suggested modifying the viscosity of the blood by massive injection of salt solution. McArthur, of Chicago, to avoid the inconveniences of such injections substituted duodenal irrigation with Locke's solution.

Pasman refers to two cases of obliterative endarteritis in which, after other methods failed, he obtained distinct amelioration from the use of Locke's solution for ten days. In another case, notable improvement was evident after fourteen duodenal irrigations of four liters each.

When gangrene occurs amputation is indicated.

**PROCEEDINGS
OF THE
TOURO INFIRMARY STAFF.**

Monthly Meeting for April, 1922.

The President, Dr. C. Jeff Miller, in the Chair.

GOITRE.

DR. A. B. PITKIN presented a number of thyroid cases to bring out the usual types of thyroid disturbances seen along with metabolic measurements. Because of the limited time and the crowded program these cases were not dealt with in detail. Of the different types he mentioned first the goitre of adolescence. His experience was that this type of patient has as a chief complaint—if not the only one—the enlargement of the neck and very few apparent symptoms characteristic of disturbances of the autonomic system. The metabolic measurements back this up as the alteration, if any, is well within the limits of normal variation. The cases which he saw, had alterations of the metabolic rate between minus 5% and plus 7%. The next type mentioned was the foetal adenoma. This is first noticed by the patient at the onset of puberty; the usual history is that the gland enlarges at each menstrual period temporarily and as time goes on it gradually and slowly increases in size. This type may become toxic, the average duration of the goitre before this occurs is about 20 to 30 years or longer. When thyrotoxicosis is present any or all of the characteristic disturbances may be manifested with the exception of exophthalmos which is not seen unless it is a case of true Graves's disease. The clinical picture may present any degree of toxicity, but a very striking thing is that the metabolic measurement seldom shows an alteration in excess of plus 45%. The "diffuse adenomatosis" of Goetsch is also a distinct entity and a very troublesome condition to the clinician because the patient's symptoms are of a mild chronic hyperthyroidism, the type of case which would be more quickly branded "borderline," tuberculosis, neurasthenia, etc. The metabolism measurements in these cases is normal or slightly altered.

Another type commonly seen is the simple cystic or colloid goitre. This type is well-known and the measurement of the metabolic rate shows no alteration. There is a type of colloid goitre, however, which is associated with a tryrotoxicosis. The

usual history is that of periods of marked symptoms of toxicity alternating with periods of quiescence. Boothby claims that in these cases there is a focus of infection which causes a disturbance and excessive secretion of thyroxin and during the quiescent period there is an accumulation of excessive secretion of the colloid, the end result being a large colloid goitre with thyrotoxicosis and microscopically a few areas of hyperplasia are found in the gland.

The next type is the well known entity of Graves' disease with its endless chain of symptoms and serious disturbances resulting from excessive stimulation of the autonomic nervous system. The usual and commonest findings are loss of weight, fatigueability, loss of strength, tachycardia, tremor, perspiration, vasomotor instability, nervousness of varying degrees, possibly some of the eye signs,—Von Graeffe, Stelwag, Moebius, Dahrymple, and in the great majority of cases varying degrees of exophthalmos and marked alteration of metabolic rate.

There is another class of case which is occasionally referred for a metabolic measurement, the entire picture and the findings being troublesome to interpret. They present symptoms which usually amount to fatigueability, varying degrees of tachycardia, nervousness of varying degrees and usually underweight. There is no finding suggesting a definite earmark of hyperthyroidism, the metabolic measurement proving to within normal limits or slightly lower than the normal variation. A small number of such cases react positively to the adrenalin hypersensitiveness test. It would appear from the opinion of Goetsch and Woodbury that these are really cases of a mild chronic hyperthyroidism, probably of the diffuse adenomatosis type. But Dr. Pitkin was not convinced sufficiently, or felt that probably he had not seen enough of them to warrant this diagnosis. Many cases termed N. C. A. in the army or effort syndrome, present very similar pictures and findings. Recently it was suggested that in these cases there is actually an increase of thyroxin in the tissues accounting for the autonomic disturbances, but there is not any thyroid irritability present accounting for the stationary weight and metabolic measurement.

THE METABOLIC RATE.

Goitre of adolescence: In Dr. Pitkin's hands the alteration of the metabolic rate was well within normal limits. The rate

may be high and as Goetsch has pointed out, it may increase in severity and terminate as a true hyperplastic goitre.

Toxic foetal adenoma : The average and usually the maximum alteration of the metabolic rate was plus 45%, regardless of the suggestion of the clinical picture.

Colloid goitre with thyrotoxicosis : The metabolic rate was altered as in toxic adenoma.

Graves' disease : The metabolic measurement showed an average of about 60% but not often higher. The highest rate he ever saw, after repeated observations, and with the best conditions, was plus 110% and was found in one of the patients presented. The next highest was plus 95%, in this same case and another one.

Dr. Pitkin demonstrated his cases as follows :

The patient was a typical case of goitre of adolescence. Her metabolic measurements had shown -5.9%, plus 0.05% and plus 7.2% on three observations. She was fifteen years of age and had noticed an enlargement of her neck for one year, synchronous with the onset of puberty. It had not increased in size and she presented no symptoms objectively or subjectively of any disturbance of the autonomic nervous system. She came to the clinic for treatment because of the large neck—cosmetic complaint—typical of the usual case of this type. With the idea of Marine in mind, which is prophylactic, this patient was made to take sodium iodide for three weeks and then hormotone tablets were added. She was watched very closely and no change was noted in any respect.

The next two cases were type cases of the foetal adenoma of the thyroid with thyrotoxicosis. One patient was seen and examined on February 12th and at that time her metabolic measurement was nearly plus 50%. She was ambulant and reported from her home the next morning for the observation which, it was thought, accounted for some of the increase in her rate. Two other observations showed plus 40.9% and plus 43% when at rest in the hospital as a patient. She first noticed that her neck was gradually getting larger four years ago. Her age was 27. She had a well defined, enlarged thyroid, plainly seen, and had when first observed a heart rate of 90 to 100. No bruit nor thrill, but tremor was present. She complained of some trouble in swallowing. She was very nervous, cried easily, was

easily excited. There was no palpitation. Since at rest in the hospital her pulse dropped to 72 and she presented an entirely different picture than she did when first admitted, even though she was probably a bit nervous because of all of the new faces and of being talked about.

The other case was of the same type. She was 18 years of age. The thyroid was generally enlarged. There were no definite mass or masses, doughy in consistency. She was very nervous. She cried easily and also was excited easily. There were present palpitation, negative eyes, pressure symptoms on the trachea, termed by patient "smothering spells," and a cough. Two observations of her metabolic rate were made before admission to the hospital; they proved to be plus 58% and plus 42%. One very striking feature in the observations made on these cases during their stay in the hospital was not only the improvement in their general condition but the effect on the metabolic measurement. With the first case, after two weeks the metabolic measurement was perfectly normal -0% variation; in the other case the rate was found to have been lowered 50% and at present was plus 20%.

A case of simple adenoma of the thyroid without thyrotoxicosis failed to report. She presented the same gross findings in the thyroid, but had a pulse of 75, was not nervous, had temporary enlargement of the neck at each menstrual period, was 29 years of age and had a metabolic rate of plus 17%. The latter would probably be normal if the patient could be kept in the hospital over night.

The next two cases Dr. Pitkin thought were beautiful examples of Graves' disease and yet presented marked differences. The more toxic of the two was of shorter standing. Another thing was that it was at least not the usual thing to see this disease in a man. The woman was 18 years of age. Her occupation until a year ago was in the Transit Department of a bank. She had never been sick before. One year ago she had a "nervous breakdown," which necessitated her stopping her work and she had not resumed it since. She felt a great deal better at times and also had her bad days. This continued until three months ago when her friends and relatives repeatedly remarked about the prominence of her eyes. This is the one main reason that she came to the clinic and first consulted Dr.

Blum. She was then referred to the Medical Clinic and then to Dr. Pitkin for a metabolism measurement. A complete summary of the findings in this case after prolonged observation and a minute history are, fatigueability and the loss in weight from 150 pounds to 103 pounds, and a slightly enlarged gland. Her metabolic measurement was plus 68% and plus 52%. The exophthalmos as could be seen was very marked. She was feeling very well of late and she has been going out a great deal. This was probably a period of remission.

The other case was shown in contrast. The man was perfectly well before the present trouble; his occupation required hard manual labor. About 7 months ago he noticed a lump in his neck to which he paid very little attention. The neck had gotten larger gradually. He became very nervous and lost nearly 50 pounds in weight. He tired easily, was extremely nervous and apprehensive, had a marked tremor. There was very little suggestion, if any, of exophthalmos. He had the Von Graeffe and Moebius signs. The gland was markedly enlarged, particularly on the right. There was a very distinct bruit and thrill over the entire gland. He had been under medical treatment and observation for two weeks before coming to Touro, and the first attempt to discern his metabolic rate was very unsatisfactory because of the extreme apprehension and lack of sufficient co-operation. Dr. Pitkin called those experiences "rehearsals." He finally managed to get a fairly satisfactory observation of plus 110%. The patient was put to bed for two weeks, kept very quiet and given forced feeding. When he returned for another measurement, he had improved remarkably, apparently or subjectively. The observation was extremely satisfactory and the rate was found to be plus 95%. A week later a third observation was made and found to be plus 78%. The fourth attempt, a week later, after complete rest in the hospital, was plus 80%. This was a surgical case without a doubt and he wanted treatment. The evident question was whether this man was a good surgical risk? His pulse had dropped from 130-140 when first seen, to 80. Sitting in front of strangers he was apparently undisturbed and quiet even though there must have been a little excitement present. He was entirely a different man than when first seen 4 or 5 weeks ago. His respira-

tion was 20 and below, and he had gained over 5 pounds in weight.

Dr. Pitkin thought that the answer to the question of operability was to be found in the metabolic measurement on the one hand, and the clinical picture after observation, on the other. He felt that the clinical picture was by far the most important factor though material aid was obtained by metabolic measurements. He thought the patient was a good surgical risk and that it would only be a very short time before he could be safely recommended for surgical interference and treatment.

DR. C. L. ESHLEMAN said that the benign enlargements of the thyroid, such as sometimes occur during adolescence and pregnancy, do not require much consideration. They were usually a simple hypertrophy of the gland and required no treatment, but should be watched for any symptoms of thyrotoxicosis which might develop later along with other changes in the gland. Two other types, the toxic adenomas and the true exophthalmic goitres should be differentiated. The important points in differentiation were as follows:

Toxic adenomas.		Graves or Basedow's disease (Exophthalmic Goitre).
Weight: Only moderate loss, if any.		Very marked and usually rapid.
Diarrhoea: Not usual.		More frequently noted.
Tremor: Frequently absent.		Marked and practically always seen.
Tachycardia: Moderate, 90 to 100 per minute.		Very rapid pulse, 100 to 140 or more.
Thyroid: Often markedly enlarged, hard and nodular, frequently one lobe larger than the other.		Usually a symmetrical uniform, moderate enlargement, sometimes barely noticeable; very vascular and sometimes pulsating.
Exophthalmos: Frequently absent.		Present.
Basal Metabolism: Moderately increased.		Very high—plus 50 or higher.
Goetsch Adrenalin Test: Varies; usually positive.		Strongly positive.

The cases showed these different types.

Dr. Eshleman presented three cases of toxic adenoma:

Case 1: M. G., 29 years old, complained chiefly of nervousness and general malaise. Says she gets "all in a tremble" when excited. Recently had to stop work on account of malaise. Has lost no weight, has no tremor, pulse 80 to 90. Both thyroid lobes and the isthmus are enlarged and she has a basal metabolic rate of plus 17. Rather a mild case and has improved steadily under medical treatment.

Case 2: L. G., had a moderately enlarged thyroid, the right lobe larger than the left, hard and nodular. Pulse rate was 90-112, had

lost 30 pounds in 6 months, had slight tremor at times and complained of nervousness and tired easily. Her B. M. R. was plus 30. The Goetsch test was slightly positive. She was a case of toxic adenoma also. After ten weeks of medical treatment she had gained 12 pounds and was much better.

Case 3. G. M. This woman had a very much enlarged thyroid of the same adenomatous type first noted four years ago. The left lobe extended much higher than the right, was quite hard and nodular and rather freely movable. She complained of nervousness for two years, cried frequently, had slight dysphagia and dyspnoea at times (evidently pressure symptoms), had no diarrhoea, no loss of weight, in fact, was gaining, had no palpitation. Two B. M. R. observations showed plus 40.9 and plus .43. To be operated shortly. Goetsch test was positive.

Case 4. This was a truly remarkable case of exophthalmic goitre who had been under treatment for eleven years, who had never been operated and whose disease had an unusual course, shown previously 8 years ago when at her worst. Dr. Matas was not inclined to operate. In 1903, while in a theatre, she was called out and told that her husband was dead. The shock was great and she was nervous for a long time. Shortly after she noted tremor while trying to thread a needle; this was followed by exophthalmos. For eight years she went to many doctors and was treated with X-rays, serum, inoculations and other methods. She finally came to Dr. Eshleman in 1911 when 43 years old. She was in a very serious condition. The exophthalmos was still present. She had all of the other classical eye signs, very marked loss of weight, highly nervous, and marked tremor. The thyroid was enlarged symmetrically and very vascular, but never very large. Pulse 112 to 130, irregular, mitral leakage, systolic pressure 140 to 175, a typical severe case of Graves' disease. Several times during the subsequent few years she showed serious heart embarrassment, oedema of legs and lungs, haemoptysis and passive congestion. But she came through all of them under prolonged rest, digitalis and sedatives. About 1916 she began to show subsidence of her toxic thyroid symptoms, was gaining weight, not so nervous, thyroid getting smaller, tremor subsiding. At present the thyroid has atrophied to such an extent as to be unnoticeable, she is rarely nervous, has grown very stout and is quite comfortable except for the badly damaged myocardium which has resulted from the prolonged toxicity. Recent B. M. R. observations showed plus 48 and plus 35, but at present her Graves' disease was in the background and she was no longer toxic, but suffering from the residual myocardial effects of many years of severe thyroid poisoning. She had been eleven years under observation and treatment and eight years previously under others. No credit was claimed for having cured the hyperthyroidism. The gland might have atrophied naturally. She had rest and sedatives and quinine hydrobromate and chromium sulphate. He did not think any one drug or thing cured her. Some few cases ran this course, but rarely so.

The treatment of these two types of goitres is not always surgical in Dr. Eshleman's opinion. The mild cases of toxic adenoma could be medically treated and benefited. He had a number of them improving under treatment in the out-patient department in whom surgery had seemed unnecessary. Others with more toxic symptoms were surgical and should be so treated. He thought true exophthalmic goitre was rarely a disease

which could be permanently benefited by medical treatment. A few apparently did well for a time, but the risk was too great. They should usually be attacked surgically as soon as possible.

Charts prepared by Dr. Scott were exhibited illustrating the Goetsch test which was done on several patients. The test consists of the hypodermic injection of $\frac{1}{2}$ cc. of Adrenalin making careful observations at short intervals thereafter of any rise in pulse rate and blood pressure and any subjective symptoms which develop. A positive reaction is a marked rise of pulse and blood pressure with such symptoms as nervousness, tremor and consciousness of rapid heart action by the patient. The phenomena occur almost immediately after the injection and persist for 30 to 45 minutes, gradually subsiding in about one hour. Dr. Goetsch lays considerable stress on a positive response as an indication of thyrotoxicosis when done in the borderline cases with thyroid enlargement and a few suggestive toxic symptoms.

Dr. Eshleman thought that some individuals with a highly sensitive nervous system showed a rise of pulse and blood pressure from purely psychic causes. For instance, a young man in the ward with supposed neuro-circulatory asthenia was approached with the hypodermic and before it was administered his pulse-rate and blood pressure rose considerably. (Since then he had been giving a hypodermic of sterile water first as a control test. Allowance should be made for this psychic rise, which was shown on one of the charts (case of Miss D.) before the hypodermic was given. Following the hypodermic she showed a very characteristic and unmistakable positive reaction.

Dr. LEMANN thought that the number of cases presented was striking and wondered if thyroid enlargements were on the increase. In the last few years spent in the clinic he saw more enlargements than in previous years. He tried to see if there was any correlation between drinking water and thyroid enlargements when New Orleans was in the transition from the eastern water to river water from the water works. He inquired what kind of water the patients were drinking and found no relation between the drinking water and the thyroid enlargements. This was perhaps because the number of cases was not great enough.

DR. MATAS said that this discussion, preceded by Dr. Pitkin's report reminded him of the growing frequency of goitre and especially toxic goitre in this section of the country and in the United States. The evil reputation of certain valleys and mountain countries of Europe as endemic foci of this disease is rapidly being transferred to the United States. The great incidence of goitre in this country was brought about most strikingly by the survey of the pathology displayed by the war recruits examined in 1917. Whatever may be the reasons for this increased incidence of thyroid disease the fact cannot be denied that its prevalence has enormously increased in our midst. The number of thyroid patients, white and black, who now apply to our clinics is vastly greater than those whom we so recognized in the same clinics 30 and 40 years ago. He believed that the toxic types, thyrotoxicosis and exophthalmic goitres, are being thoroughly Americanized. At any rate, the place to study goitre in all its manifestations is no longer Switzerland, the Tyrol, or the Pyrenes, but in the great clinics and surgical centers of the United States, for example, Rochester, Cleveland, New York, Boston, Philadelphia, Baltimore with New Orleans and the southern cities furnishing an abundant quota.

While the recruiting experience of the war showed how goitre was prevalent all over this country experience continues to show that goitre, and especially toxic goitre and Graves disease, are still largely gynecological affections. In Dr. Matas' experience, the proportion of 9 women to 1 man or 90% women was not an exaggeration. This no doubt accounts for the frequency with which gynecologists had appropriated many of these cases as part of their domain. But he noted that not a few of the more dangerous toxic and exophthalmic cases as well as the retrosternal, were still allowed to find their way to the general surgeon.

Much has been written about the causes of goitre and in the endemic foci of Europe, water pollution of a certain specific type has been held chiefly responsible for its presence. In this country and especially since the war, and with the great increase of the hyperthyroid and toxic types—we must appeal to other causes. Hyperthyroidism, largely a female disease, is undoubtedly related to the sexual functions and the emotional life of woman. The frequency of toxic adenoma and exoph-

thalmic goitre at puberty and among brides and especially "war brides," illustrates the sexual relationship which has always existed, but has undoubtedly grown more important in later years in this country, especially where the economic and political equalization of the sexes is asserting itself since the "suffragette" has come to her own, and where freedom of the social relations between the sexes has increased. The war brought with it an enormous stock of hyperthyroidism to the women of this country; but "jazz," "joy rides" and short skirts have contributed a liberal share to the growth of this menace to American womanhood. In the endemic foci of Europe it may be that tainted waters are at the fountain source of simple endemic goitres, but here, it is not the water we drink, but the pace at which we live that makes the "poison goitre" grow.

The American Medical Editors' Association will hold its 1922 meeting, October 16-17, at the Hotel Statler, Cleveland, Ohio, during the Annual Convention of the American Public Health Association.

NEWS AND COMMENT.

NEW DEAN AT TULANE. The board of Administrators of Tulane University of Louisiana, on July 31st, elected Dr. C. C. Bass as dean of the School of Medicine. Dr. Bass well merits the honor. His original work in malaria brought forth international commendation. He enters upon his duties with the good wishes of all his medical friends.

THE NEW BAPTIST HOSPITAL. The home mission board of the Southern Baptist Association has been instructed to build a general and research hospital in the City of New Orleans, to cost \$2,000,000.

CHARITY HOSPITAL IN NEED OF FUNDS. The Charity Hospital, New Orleans, has requested a bond issue of \$300,000 which Gov. John M. Parker vetoed as unconstitutional after the bill had passed the Senate and the House. The money is badly needed for an additional building for internes and also for nurses. The internes' home was erected thirty-three years ago to house 18 internes. There are now thirty crowded in, and others have to seek accommodation elsewhere. The nurses' home is seventeen years old and was originally intended to accommodate one hundred and two. The hospital now has two hundred nurses.

NEW SANITARIUM TO OPEN IN SEPTEMBER. The St. Luke's Private Sanitarium, located in New Orleans, opposite the new Texas & Pacific railway station, in Annunciation Street, will be ready for the reception of patients about September 20th. Dr. B. F. Gallant, formerly assistant superintendent of Charity Hospital and later medical director of Belvedere Private Sanitarium, has been appointed medical director. St. Luke's recently acquired the buildings and grounds of the St. Simeon Select School. These buildings are undergoing changes which will modernize them. This sanitarium will be conducted as a most modern and scientific institution for the care and treatment of constitutional diseases, cardio-renal and metabolic disturbances, functional neuroses, and is especially equipped to care for mild nervous cases where rest and recuperation are desired. Infectious diseases will not be cared for. The institution will also be able to care for a limited number of surgical operative cases as well as surgical convalescents from other hospitals.

FOREIGNERS AS ASSISTANTS IN ITALIAN CLINICS. On the initiative of the Italian League for the Protection of National Interests, the Faculty of Medicine of the University of Rome has granted foreign physicians the privilege of entering the Medical and Surgical Clinics of the University of Rome in the capacity of assistants without salary—a measure which has been adopted with marked success by the Universities of France.

These Roman Clinics are under the direction of the greatest Italian physicians and surgeons.

The following places are available for the next Academic year, which begins in the first week of November.

Two places in the Surgical Clinic; 2 places in the Medical Clinic; 2 places in the Obstetrical Clinic; 2 places in the Dermosyphilopathic Clinic; 2 places in the Clinic for Mental and Nervous Diseases; 1 place in the Orthopædic Clinic.

Foreign physicians are admitted also to the numerous finishing courses offered by the Medical Faculty of Rome.

Applications may be addressed to the President of the Faculty of Medicine of the University of Rome accompanied by a certificate of graduation and a favorable recommendation from the President of the applicant's Medical School.

Applications with documents will be received also by the Italian League for the Protection of National Interests—(Lega Italiana per La Tutela degli Interessi Nazionali) Roma (8) Corso Umberto Primo No. 101, which will furnish all required information.

ST. RITA SURGICAL INFIRMARY, 1373 Annunciation Street, New Orleans, is improving its facilities.

Since the opening of the institution little over a year ago, the demand for more hospital beds has been so great that it has been deemed necessary to purchase the twin building next to the Infirmary. Incorporating this building will form a U-shaped colonial structure doubling the hospital's capacity, making a total of fifty beds, with two operating rooms.

There is a department for Nurses and the Sisters of Mercy have charge of the institution. There are also X-ray and Laboratory departments in full operation.

Archbishop Shaw granted special permission to Dr. Wilton P. Tilly for the Sisters of Mercy to take charge of the Infir-

ary. Two graduate Nurses of the Order have taken charge of the operating department. It is the hope of the Infirmary that it will soon establish a training school for Nurses. The hospital maintains a house physician and auto ambulance service.

THE MEDICAL ASSOCIATION OF THE SOUTHWEST AND THE TRI-STATE SOCIETY will meet at Hot Springs, Ark., October 16-17-18. There will be three clinics which will be most profitable and well worth making the trip for.

Dr. W. T. Wootton, of Hot Springs, chairman of the general committee, announces that the mornings will be given over to clinics, the afternoons to scientific papers and the evenings to get-together meetings of the various college alumni and the usual social features. The Eastman Hotel will be headquarters, registration, exhibits and sessions will all be held under one roof.

The clinics will be conducted by authorities of nation-wide fame, and this meeting, if the plans of the committee carry, will no doubt go down in the history of each society as its most successful meeting. Clinics will be held on:

The Heart and Blood Vessels; Kidney Diseases; Neuro-Syphilis; Arthritis, and Forms of Joint Infections.

Dr. St. Cloud Cooper, of Fort Smith, Ark., is president of the Southwest Association and Dr. Charles A. Smith, of Texarkana, Ark., is president of the Tri-State Society.

THE AMERICAN PROCTOLOGIC SOCIETY held its twenty-third annual meeting in May. A preliminary meeting by invitation was first conducted at the Mayo Clinic, May 19 and 20. On May 22 and 23 the regular scientific sessions were held in St. Louis. The following officers were elected: President, Emmet H. Terrell, Richmond, Va.; Vice-President, William H. Kiger, Los Angeles, Cal.; Secretary-Treasurer Ralph W. Jackson, Fall River, Mass.

THE ROCKEFELLER FOUNDATION announces the prompt suppression of a yellow fever epidemic on the Pacific coast of South America, by means of fish. In malaria control as well as in operations against yellow fever, fish are now playing a most important roll. Richmond, Va., has stoeked all its fountains, reservoirs and lakes with top minnows and the city maintains

hatcheries to furnish fish free of charge to the communities of the State.

DRS. FORTIER AND GATELY announce the opening of a new department at Hotel Dieu for deep X-ray therapy. The department is equipped with a Victor apparatus.

TOURO INFIRMARY has two vacancies for internes. Information as to salary and other details are obtainable from the superintendent.

AT THE CHARITY HOSPITAL, NEW ORLEANS. A record number of patients passed through the Accident Room, there being 2024 cases handled in the month. This service is run by five internes, of which, at the present time, two are women. In the clinic an average of 545½ patients were treated daily. This is the highest daily average ever reached in the clinic. On July 31st there were 743 patients in the clinic. The daily average of patients in the wards was 990.

Bids for the erection of the new addition to the clinic were received and opened on August 7th. The expectation is that work will start on this building some time in the near future. The contract was awarded to R. P. Farnsworth, whose bid was \$70,140.00. The clinic will be completed in six months.

A Physiotherapy Department has been installed in Charity Hospital under the direction of Miss Marion H. Bentley. Miss Bentley is a graduate of the Sargent School of Physical Education, Boston. Her practical training was received at the Massachusetts General Hospital in Boston, and the Mayo Clinic.

Lectures to the intermediate class of nurses were begun on May 1st. Each nurse is given practical work in the Physiotherapy Room. One nurse is given this training every month. The practical work of the Physiotherapy Department was started on June 15th. Heliotherapy massage, exercise for post-operative cases, and detailed exercise for faulty posture and lateral curvature are given in this department.

REMOVALS: Dr. G. R. Carroll, from Cravene to Fullerton, La.
Dr. J. D. Gladney, from Homer, La., to Albuquerque, N. M.
Dr. W. C. Hart, from Summit, Miss., to McComb, Miss.
Dr. J. E. Lawton, from Timberton, La., to Baton Rouge, La.

BOOK REVIEWS AND NOTICES.

The Principles of Immunology, by Karsner and Ecker. J. P. Lippincott & Company, Philadelphia and London.

This is the best work on the subject that has come to the notice of the reviewer. The authors are to be congratulated upon an excellent and concise review of their subject, fully up-to-date. The book will be of great value to all students of a subject, whose importance cannot be overestimated to the modern scientific physician.

It is perhaps too advanced for general use by students. The chapter on agglutinins and precipitins is particularly strong.

C. J.

Essentials of Laboratory Diagnosis, by Francis Ashley Faught, M. D. Seventh revised and enlarged edition.

In the seventh edition of this well-known work, the author has brought it fairly up-to-date by practically rewriting the book. It is an excellent text book for workers in the Clinical Laboratory. It would be better perhaps if the subject of Blood Pressure was not contained in a work of this kind, as Blood Pressure takings have become such a common procedure in the office and at the bedside, that they can no longer be considered laboratory procedures. Blood Chemistry is given several chapters, but the subject is so broad that more space might be advantageously awarded to it. The well-known and valuable carbolic acid test for Globulins in the cerebro-spinal fluid is omitted, which the reviewer feels is a mistake. We are glad to see that so eminent an authority as Dr. Faught regards the Bass-Watkins reaction of value in the diagnosis of Typhoid Fever. On the whole the book is to be recommended, especially to students.

C. J.

PUBLICATIONS RECEIVED.

THE MACMILLAN COMPANY, New York.

X-Ray Dosage in Treatment and Radiography, by William Daniel Witherbee, M. D., and John Remer, M. D.

Food, Health and Growth, by L. Emmett Holt, M. D., Sc. D., LL. D.

J. B. LIPPINCOTT COMPANY, Philadelphia and London.

Endocrine Glands and The Sympathetic System, by F. Lereboullet, H. Carrion, A. G. Guillaume, translated by F. Raoul Mason, M. D., assisted by Daniel R. Ayres, A. B., M. D.

C. V. MOSBY COMPANY, St. Louis.

Diseases of the Thyroid Gland, by Arthur E. Hertzler, M. D., F. A. C. S.

WASHINGTON GOV'T. PRINTING OFFICE, Washington, D. C.

United States Naval Medical Bulletin, Vol. 17, No. 1, July, 1922.

Public Health Bulletin No. 123, (Transactions of the Second Annual Conference of State Sanitary Engineers.)

Public Health Reports, Vol. 37, Nos. 28, 29, 30.

REPRINTS.

Avulsion of the Scalp. Review of the Literature and the report of a case, by Chas. A. Porter, M. D., and Wm. M. Shedden, M. D.; **Epidemic Control in Europe and the League of Nations**, by Wickliffe Rose; **What is Cancer and How It Should Be Treated**, by L. Duncan Bulkley, A. M., M. D.; **Report of Commissioner of Military Records**, A. B. Booth, to the Governor of the State of Louisiana, May, 1922.

MORTUARY REPORT OF NEW ORLEANS.

Computed from the Monthly Report of the Board of Health of the City of
New Orleans, for July, 1922.

CAUSE	White	Colored	Total
Typhoid Fever	4	1	5
Intermittent Fever (Malarial Cachexia)			
Smallpox			
Measles			
Scarlet Fever			
Whooping Cough	1		1
Diphtheria and Croup	1		1
Influenza	1		1
Cholera Nostras			
Pyemia and Septicemia	2		2
Tuberculosis	38	30	68
Cancer	31	9	40
Rheumatism and Gout			
Diabetes	6	2	8
Alcoholism	2	1	3
Encephalitis and Meningitis	0	1	1
Simple Peritonitis	1	1	2
Locomotor Ataxia	20	12	32
Congestion, Hemorrhage and Softening of Brain	1	3	4
Paralysis	1		1
Convulsions of Infancy			
Other Diseases of Infancy		1	1
Tetanus	1		1
Other Nervous Diseases	52	32	84
Heart Diseases	2		2
Bronchitis	12	13	25
Pneumonia and Broncho-Pneumonia	1	1	2
Other Respiratory Diseases	2		2
Ulcer of Stomach	1	1	2
Other Diseases of the Stomach	13	6	19
Diarrhea, Dysentery and Enteritis	6	2	8
Hernia, Intestinal Obstruction	3	3	6
Cirrhosis of Liver	2	3	5
Other Diseases of the Liver			
Appendicitis	13	3	16
Bright's Disease	22	13	35
Other Genito-Urinary Diseases	5	5	10
Puerperal Diseases	7	2	9
Senile Debility	1		1
Suicide	1	1	2
Injuries	18	6	24
All Other Causes	79	57	136
Total	350	209	559

Still-born Children—White, 20; colored, 24; total, 44.

Population of City (estimated)—White, 295,000; colored, 110,000; total, 405,000.

Death rate per 1000 per annum for month—White, 14.23; colored, 22.80;
total, 16.58. Non-residents excluded, 14.19.

METEOROLOGIC SUMMARY (U. S. Weather Bureau).

Mean atmospheric pressure 30.66
Mean temperature 82.
Total precipitation 4.05 inches
Prevailing direction of wind, southwest.

NEW ORLEANS MEDICAL AND SURGICAL JOURNAL

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No. 4

ORIGINAL ARTICLES.

(No paper published or to be published in any other medical journal will be accepted for this department. All papers must be in the hands of the Editors on the tenth day of the month preceding that in which they are expected to appear. Reprints may be had at reasonable rates if a WRITTEN order for the same accompany the paper.)

CARCINOMA OF THE CERVIX*

By B. C. GARRETT, M.D., Shreveport, La.

Carcinoma of the cervix is twenty times more common than carcinoma of the fundus according to Wertheim. It is estimated that more than 10,000 women die annually with carcinoma of the uterus. Statistics show that most women thus affected die within three years from the onset and the majority during the first and second years.

From the standpoint of treatment carcinoma of the cervix is classified into three types in this paper. They are as follows:

First. Those cases in which surgery and radium will benefit or cure.

Second. The further advanced cases in which the uterus may or may not be fixed; the growth is still mostly confined to the cervix and cervical canal; the vaginal wall may be slightly involved.

Third. Those cases in which surgery is not indicated and in which radium gives only temporary relief.

*Read before the Louisiana State Medical Society Meeting, April 11 to 13, 1922.

The first class of patients have caused a great deal of discussion since radium has made its value known therapeutically, for it is a problem whether to operate or whether to use radium. However, in the earlier cases while the growth is still local and the uterus freely movable, it has been our custom to operate unless contra-indicated by disease of heart, lungs, blood vessels or kidneys, because the mortality following operation at this time is low, the post-operative sequelæ the minimum, the chance of recurrence not so great, and the end results good. Nevertheless, some capable men have quit operating on any kind of cancer of the cervix, no matter how early the diagnosis, since the advent of radium, but it strikes us that until we have learned something more about radium than most of us know now we shall not go wrong by operating on these cases which are diagnosed early. For, until the method of application and dosage of radium become standardized we are apt not to get the best results; while, on the other hand, the operative results, technique and treatment have been worked out long ago by many surgeons and we know what to expect.

A word as to diagnosis of this condition: What one surgeon or pathologist would term an early cancer might be diagnosed a more advanced cancer by another, so that it will be readily seen how different diagnoses affect the percentages of different operators; therefore, the value of percentages is relatively of small benefit to us unless they are secured by the same group of operators.

The second class of patients have cancer of the cervix in a little more advanced state than the class just described. The vaginal wall, the bladder and the rectum may be slightly involved but there is little or no fixation of the uterus. This class has caused no few surgeons to worry. Should the patient have an operation or could she be cured by radium? No doubt there have been many lives lost both by being too conservative and by being too radical in treating this type. If an operation is performed, it must be the most severe type of a major operation and therefore all operators are not capable of performing it. Clark says: "If an operation or other therapeutic procedure is to have a permanent place in our armamentarium it must be sufficiently easy to make it available, not only for a few skilled specialists, but for the great body of surgeons. In these days

of low mortality percentages attending nearly all the major operations, no major operation can possibly gain headway which combines with it a shockingly high mortality and a distressing number of sequelæ. It is possible that when we make a final summing of our combined experiences we may have to accept the conclusion that a less radical operation even though it save fewer lives, may be preferable when attended by a low surgical mortality and few or no operative sequelæ." This states the case admirably.

I have no figures to present just yet but I am sure that the results of our preliminary treatment with the Percy Cautery was about as good as those we are getting with radium preliminary to operation. Both the cautery and radium cause a clearing up of the local field to such an extent that sometimes after one or two applications the patient feels that she is well and does not return for further treatment until too late. However, we have discontinued the use of the cautery since the advent of radium.

Most of the radiologists tell us not to operate on a case that has had radium treatment because trauma excites cancer cells, but we know that radium is only a local remedy, its rays extending only from about two to six centimeters from place of application; so why not operate after its application and clear away the remaining foci if possible? We have had several such cases upon which we operated, but unfortunately, I have not been able to follow them up very closely. However, I recall one patient on whom we operated about a year ago. Patient was a young woman thirty-four years old—entered hospital for constant menstruation. Examination revealed a cauliflower carcinoma of cervix with partially fixed uterus. She was given three applications of radium, the first and second applications being thirty days apart followed by a third fourteen days later. After first treatment patient's general health was better, and the local growth very much diminished in size, no bleeding. The day following second treatment patient had a very severe hemorrhage which required packing to control. After remaining in bed two weeks growth was gone, and uterus which had been formerly fixed was freely movable, which led us to believe that the fixation was probably caused by the inflammatory condition. Fourteen days following third treatment we did a pan-hysterectomy on

patient, upon examination of tissue the pathologist found that a small spot in cervix showed cancer cells. Now one year after operation she is still apparently well, but how long she will be so free from evidence of cancer we are not in a position to say.

Parenthetically, we are like many others in that we do not carry out the operation as outlined by Wertheim in all cases because we found that the mortality was too high in our hands. On very fat and old women we do the vaginal hysterectomy, and we only operate on those cases which have the growth confined to the cervix and the cervical canal.

In reviewing the literature I notice that a great many pathologists tell us that the squamous cell type of carcinoma responds more readily to treatment than the adeno-carcinomatous type but I have not checked our cases along this line.

Our method of applying the radium is usually fifty milligrams for twenty-four hours' exposure filtered through silver, brass and hard rubber, with the application repeated in thirty days. We have observed that the maximum results are obtained in two or three treatments. We also realize that there are about as many techniques of giving radium as there are groups owning it.

Dr. Deaver recently made the statement that radium had been often tried but the results were unsatisfactory in a great many cases. We have had a similar experience but it would not be fair for us to judge as we have used it mostly in the far advanced cases.

Our third class of patients are those who have carcinoma in the far advanced state and are inoperable. This class constitutes the saddest cases of all for there is practically nothing that can be done for them, and it is quite usual to see a mother with a house full of children who need her very badly thus affected. Radium, I suspect, has been used in these cases more than in any others but with only temporary relief. Here are some of the general characteristics of such patients: General health much below par, cachectic possibly losing a great deal of blood and with a thin watery discharge, mixed with cheesy looking pieces of sloughed tissue, the odor very characteristic of the disease. Sometimes the bladder wall and rectum are involved before patient is seen by the doctor. We have six of these poor unfortunates under observation at this time and they are all

getting worse. Most of them improved under the radium treatment from two to six months and then gradually began to get worse again. The most notable change was a general improvement in health and an incidental clearing up of the local field, the pain and hemorrhage being much less but the thin watery discharge never disappeared. When the symptoms of these patients began to return it was a striking fact that three of the six complained first of pain in the right hip radiating down the thigh. Just why it should begin to involve the right side first I do not know.

We have not been so unfortunate as to get vesico-vaginal fistulas, etc., following the application of radium as reported by some in the literature. Our results with it have been more effective with elderly people as would probably be expected; also we have been very successful in controlling bleeding in cases of fibrous uterus by its application.

Cancer of the cervix of young women under thirty is not as rare as might be supposed. There were six such cases, colored, in the Charity Hospital at Shreveport during the past year, three at the same time.

Much is being said about deep X-ray therapy in the treatment of the non-operable cases and the results have been very favorable in the few cases that we have used it. Dr. Barrow, our radiologist, has had the larger machine only a short time and therefore, we have had very little observation of its affects. But the rays seem to affect sarcomatous growth more than the carcinomatous if we may judge by the fact that a few cases of sarcoma we are treating are improving more rapidly than several cases of carcinoma.

DISCUSSION.

Dr. S. C. Barrow, Shreveport: Dr. Garrett's paper was written on the treatment of cancer of the cervix, but it really deals with cancer of the female pelvis. It has not been my observation that we find very many cases of carcinoma of the cervix. Unfortunately they come to us as cancer of the female pelvis. If they came as cancer of the cervix we could cure them with radium or with the Percy cautery, or with various other things; but the problem we have to meet is cancer in a very advanced stage. The paper really is a condemnation of surgery and radium and the Percy cautery and everything else, but he admits that we are speaking of cancer of the pelvis. And with all of these points I want to agree. The doctor's paper has proven conclusively that surgery is a total failure when it comes to the treatment of cancer as described by him. All of these cases ultimately go back to the radiologist, which has been the dumping ground in the past for surgery, and we are called upon

to treat and cure cases and are condemned for not curing them, even though the surgeon has had the first shot in the early stage and we get them in the pre-death stage.

I made the radium application in all of these cases he described. It did prove that we have done things that he has failed to do. We have relieved these women of hemorrhage, we have relieved them of wasting discharge, and vile odors, and we have at least made them comfortable and livable for a period of months. If the surgeon could do that he would be doing something, but he cannot do that. I have never been an enthusiast about radium. I believe it has a very limited field, and unfortunately we do not get the patient at the stage when we could do something for them. For fifty years or more surgery has had the field. Radium has been boosted the last ten years because of the fact that the surgeon is able to use it. If he had mastered the more difficult technique of deep X-ray therapy we would have been many miles ahead in the solution of the entire problem. I pin my faith in the cancer problem to deep X-ray therapy—I mean super-deep X-ray therapy. Recently there has been an apparatus devised by which we can shower throughout the pelvis radiation equal to what radium can do locally. If we can get radium in contact with the cancer cell we have got it, but unfortunately we cannot get at where the real fire lies. We know now that we have an apparatus by which we can put throughout the pelvis the same radiation that we have been putting against the cervix. Unfortunately, our apparatus has only been installed a few weeks and I cannot speak personally, but I have confidence that great things will be accomplished. The plea I want to make is, give us a chance. Do not send these cases when you have exhausted every means at your disposal, but send them to us when we have a chance. The greatest problem in cancer today is the surgeon. The problem of the surgeon is how to cure cancer, but the problem of the radiologist is the surgeon. They keep these cases away from us until it is too late. Give us a chance with our modern treatment and I believe we will be able to do something for them.

Dr. J. M. King, Nashville, Tenn.: I am very glad indeed to see such conservatism in the application of radium. Of course, Dr. Kelly, of Baltimore, has probably used this treatment more than any man in this country. I am a little afraid we are about to go astray on this subject. I am not a surgeon, but I have observed a great deal of treatment with X-ray and in the last few years with radium. We are apt to go astray as many men went astray on salvarsan in the treatment of syphilis. I always had the idea that it took mercury to cure syphilis and I think the idea is settled today that both salvarsan and mercury are needed, but that mercury is really the treatment for the disease. Radium is an adjunct in these cases. If we could get cervical cancer at its incipency and then apply radium we could get results; but often when a case presents itself it has unquestionably gone too deep into the musculature, and we apply radium and get a soft, smooth scar and suppose it is cured. I believe that carcinoma should be thoroughly cauterized, the tissue destroyed as far as possible to prevent any grafting of the cells upon the fresh wound, then followed by the application of radium. After that is done, I believe, as Dr. Barrow has said, that deep X-ray therapy should always be applied. The dose should be the heaviest dose the patient will stand, taking age and everything else into consideration.

Recently I had a case of large cauliflower cancer of the cervix that was regarded as inoperable. In consultation we decided for an operation. The surgeon did a hysterectomy and we have now given that woman twelve or fifteen deep X-ray treatments through

the front and also through the back and repeated the radium treatment. That was three years ago and she has regained her weight, regained her blood, and she may live long enough to raise a family of four or five children.

I recall distinctly one case that is unusual. Twelve years ago amputation of the cervix was done, later on a recurrence took place and the uterus removed. Two years after that the patient came into my hands on account of a recurrence. She had X-ray treatment at that time to the extent of holding it in abeyance. For several years she went along quite well. About two years ago she presented herself again with considerable recurrence and then we applied radium a number of times. I gave her drastic treatment. The nodules have passed away and she is enjoying as good health as she did twelve years ago, and is well as far as we know.

Dr. J. A. Danna, New Orleans: I rise as a surgeon to say that I believe surgery has no place in carcinoma of the cervix. The reason radium has not the good name it ought to have is that we speak of using radium just as though you could drop a radium capsule into the vagina and that is all. Radium is a powerful agent; but it is as dangerous as a red-hot poker. You would not stick a red-hot poker into a woman's vagina and hold it there for one or two hours and expect to get results. You would be careful just what you touched with it and how deeply you inserted it and you would be very careful that it did not come in contact with healthy tissue. And here we learn that lesson about radium and until the surgeon begins to handle radium himself and protect it properly, you will not get satisfactory results, from radium. I have not done an operation on the cervix in a good while, but I am using quite a good bit of radium. Again I repeat that I do not believe surgery has any place in carcinoma of the cervix.

Dr. B. C. Garrett (closing): Dr. Barrow "passed the buck" to the surgeon and I suppose we will pass it to the laity. The trouble is we do not see these cases early enough. In cases of early carcinoma of the cervix where we do a laparotomy, we follow that with deep X-ray therapy as discussed by Dr. King. I repeat that we do not get these cases early enough. Of course, when they get far enough along they are gone. In the early stages radium will possibly cure them as well as an operation, but until we know this for a fact we shall continue to operate on the earlier cases.

TOXEMIA OF LATE PREGNANCY.*

By G. M. G. STAFFORD, A.B., M.D., F.A.C.S., Alexandria, Louisiana.

I have selected this subject, not with the hope or intention of advancing anything new or original, but with the view of presenting to you our present-day conception of what I regard as the most serious complication of the pregnant state.

In the toxemia of early pregnancy the brunt of the attack is confined to the metabolism of the patient. Later, however, especially after the formation of the placenta, the pathology is transferred chiefly to the vital organs, the liver and kidneys being more profoundly affected.

*Read before the Louisiana State Medical Society Meeting, April 11-13, 1922.

We know beyond dispute that eclampsia is a toxemia due to certain poison elements retained in the blood; we know that the liver cells are seriously damaged and that the glycogenic function of this organ is much impaired; we know that the kidney parenchyma undergoes certain changes, but what we do not know is the source of this subtle and sometimes fatal toxin which saturates the blood stream and leaves its mark on so many of the vital organs.

It has been suggested that it resulted from intestinal toxemia. This theory had found many advocates and there is a certain plausibility about it, and there can be no doubt but that the intestinal tract is a common contributor to the degree with which all pathological conditions are manifested, but as the cause *per se* of eclampsia it can not be accepted.

The theory that this toxemia is of placental or fetal origin has found much credence, but the conservative element of the profession looks askance at it.

The liver is primarily blamed by some investigators, and whereas there is no doubt that this organ is "hard hit" in eclamptic conditions, still we believe this to be a result of the toxemia rather than the cause of it. The same may be said of the kidneys. Other theories point to a change in the general metabolism; to a bacterial origin and finally to a disturbed balance of the glands of internal secretion as the cause of this disease.

If we were certain of the etiology our treatment would not be so empirical and the maternal mortality would not continue to be over 20% nor the fetal mortality over 30% as has been the case for the past century.

When once eclampsia has set in there will be little change in the death rate, but the time for action is before the storm begins. I do not believe that as a general rule we give the pregnant woman a square deal. We are prone to look upon this state too lightly. We should see more of our patients; keep in closer touch with their condition, examine the urine more frequently and pay more attention to their complaints, and not make light of them and say, "Oh, that is perfectly natural in your condition." In our urinary analysis it is not sufficient to examine for the presence of albumen and in its absence be satisfied with the results. A complete urinalysis is necessary, especially to determine the

nitrogen output; the presence of indican and the appearance of the acetone bodies. This information is of vital importance, and we are all in close enough touch with some good laboratory from which such information can be obtained.

If we will watch our cases closely we will generally have sufficient warning of the approach of eclampsia, and with proper care I believe many cases may be warded off. When the condition has once set in the resources of the physician will be put to a crucial test. What is the rational course to pursue?

Time is more precious than in most medical problems we encounter. The teachings of the past, and to a large extent of today, are to regard the gravid uterus as the "*causus belli*" and empty it immediately,—to anesthetize the patient and deliver at once. It was found in many cases that even when this was done the convulsions continued or the patient remained in a comatose condition and continued so until the end. It was also found that forcible and rapid dilatation and the dragging the fetus through the unprepared birth canal by "main force and awkwardness" did such irreparable damage in many instances that the remedy proved worse than the disease. It was found besides that these toxic patients with crippled livers and kidneys proved bad subjects for prolonged anesthesia.

The men in charge of the great clinics and lying-in hospitals of the world began to reflect on the results of this dogmatic teaching of immediate delivery. More attention began to be paid to the pathology of the disease, and the treatment by elimination and waiting came into vogue, and in many places it became a dogma as radical as the other extreme.

I believe there exists a happy medium between these two extremes, and when we consider that each case is a problem unto itself, and allow ourselves to be governed by existing conditions and act accordingly, we will have served the best interest of our patients. If we have a case where dilatation is complete or easily obtained I think there can be little doubt that immediate instrumental delivery is the best procedure. If our patient is in fairly good condition and labor has not set in or the cervix is rigid and but slightly dilated, we may wait and try to neutralize and eliminate the toxin present. Cesarean section is advocated by many as the method of choice in this condition. It is well to bear in mind that an eclamptic woman, on account of the profound tox-

emia, is a poor surgical risk. Dr. Edward P. Davis of Philadelphia says there is only one indication for Cesarean section in these cases. I quote the following from his lecture on the subject: "When, in a primipera, the fetus is in good condition, the cervix unshortened, undilated, and unsoftened, convulsions appearing or threatening, and the whole condition has arisen suddenly, immediate delivery by abdominal Cesarean section is indicated provided the fetus is at least viable."

It has been the almost universal custom in the past to rush to a case of eclampsia with a bottle of chloroform and keep the patient under it as long as convulsions persisted. Prolonged general anesthesia is bad in this class of patients and chloroform is especially bad as is also nitrous oxide. If an anesthetic must be given, ether is the safest, but unless a surgical procedure is contemplated it is better to control the convulsions with morphia.

I would like to add here that the determination of the creatinin content of the blood as indicative of the ultimate renal efficiency, if such is obtainable, may aid us in arriving at a prognosis in many of our cases.

The work done by Titus and Givens of Pittsburg in the treatment of eclampsia is worthy both of mention and trial. They claim that the pathological progress of this form of toxemia is dependent upon a carbohydrate deficiency in the maternal organism, particularly in respect to the impairment of the physiologic activity of the liver when unduly depleted of glycogen. It is their contention that a carbohydrate deficiency exists and that the organism calls on the liver to the extent of exhausting its stored glycogen supply, with the result that peripheral necrosis of the liver lobules takes place. They insist that glucose given intravenously in aqueous solution of 5 to 25% strength serves rapidly to restore the depleted and damaged liver cells and the liver is thus strengthened as a detoxicating organ. The clinical results of these investigators in a large number of cases are extremely gratifying and encouraging. Further investigation along these lines should be undertaken.

In summing up the modern conception of treatment as I see it I would conclude with these remarks: Treat the individual patient and do not follow routine measures. Avoid chloroform and nitrous oxide and use ether sparingly. Put your patient in a hospital if possible and try elimination by warm blankets,

copious gastric lavage leaving a purgative in the stomach, repeated irrigation of the intestine, and solutions of sodium bicarbonate and glucose by proctoclysis. Bleed your patient if high blood pressure exist and use intravenous injection of glucose. Control convulsions with sodium bromide and codein and resort to morphia if necessary. If no improvement takes place and labor has not set in and the patient is a multopara, induce labor by rupturing the membranes and using a Voorhees bag, and as soon as dilatation is obtained apply forceps. If labor has already begun and there is sufficient dilatation deliver as soon as possible. If the patient is a primipera and there is no dilatation and the case seems a grave one, then do an abdominal Cesarean section.

DISCUSSION.

Dr. B. T. Sellers, New Orleans: We should feel indebted to Dr. Stafford for presenting this most important subject in such a practical way.

Dr. Barton Crook Hirst believes that the principal cause of the toxemia of pregnancy is the toxins liberated from the foetus and placenta into the maternal circulation, thereby overtaxing the vital organs mentioned in the paper just read.

Of course, any other condition that would liberate toxins in the body, such as an excessive protein diet or a focal infection, must be considered a strong predisposing factor of eclampsia.

Dr. Aldo C. Massaglia has done a great deal of work on the parathyroid glands in their relation to eclampsia. His conclusion is that parathyroid hypo-function in pregnancy or in puerperium is certainly a pathogenic factor in eclampsia.

We must not forget the importance of the low protein diet through the puerperium in all cases. During the world war the percentage of eclampsia was reduced by one-half in Germany and Russia. This, most likely, was due to the scarcity of food rich in protein.

I cannot emphasize too strongly the necessity of a routine examination of the urine, and blood pressure reading at regular intervals during puerperium. As Dr. Stafford has just brought out, the important thing is the early recognition of the beginning of trouble.

I am an advocate of a modification of the plan of treatment outlined by Dr. McPherson of the Lying-in Hospital of New York, which is as follows:

Immediately on entering the hospital put the patient in an isolated room, which is dark and quiet. Take the blood pressure; a catheterized specimen of urine to be examined at once; give one-half grain morphia by hypo; stomach lavage, leave two ounces of castor oil in the stomach after lavage; colonic irrigation, using five gallons of 5% glucose solution or sodium bicarbonate; keep patient's skin active. If patient's blood pressure is over 175, do a venesection to bring it down to 150. I do not inject anything in the vein until after delivery, then inject 500 c.c. of a 5 to 10% glucose solution. Give $\frac{1}{4}$ grain morphia every hour until respiration is down to 8 or 10 per minute. As a rule the convulsions are controlled and the patient will be in labor. If not, I would follow the plan suggested by Dr. Stafford both in inducing labor or in the few select cases do a Cesarean section as stated by Dr. Davis. I feel

quite sure that there is a tendency to operate on too many of these cases.

Spinal puncture has been mentioned by several writers as being beneficial in cases where the cerebral symptoms are pronounced. I feel sure that it is worth trying.

There are two sides to this great subject of toxemia of pregnancy, besides the intelligent care of the physician much depends on the co-operation of the patient. It is very true that "One ounce of prevention is worth one pound of cure" and "One pound of co-operation is worth a ton of argument."

Dr. W. B. Hunter, Coshatta: I wish to say that if you will try apomorphine instead of morphine I believe you will like it. You will have relaxation, perspiration and possible vomiting which will help to eliminate instead of drying the secretions. I have used this in two cases and one of these was a post partum eclampsia lasting one day and night and another day. I used chloroform until I saw the patient would die if I continued it, so I switched to apomorphine and nitroglycerin. In another case, after delivery, the woman continued to have convulsions. I stayed with the patient all night and the next day and she lived. In that case I followed the old plan of giving a teaspoonful of calomel and then followed it in five hours with as much salts as I could pour down by the mouth, until I finally got results. These patients both got well.

Dr. Peter B. Salatic, New Orleans: A very successful drug in my hands has been veratrum veride. I would like to report a case of a woman who came in with an elongated os, a primipara, no signs of labor. The os was rigid and she was having convulsions and the blood pressure was 180. I gave about three minims of veratrum veride and the blood pressure dropped to 140 and the convulsions stopped. We tried to dilate the cervix and dilated it until we could get in a Voorhees bag. After two hours the blood pressure came up and we gave some more veratrum veride, when it went down again. After about three hours we gave her quinine and then, instead of using instruments, we gave her three minims of pituitrin. Then we put on the low forceps and delivered this woman, but she had no more convulsions.

Dr. I. J. Newton, Monroe: I will discuss only one phase of this important paper. At such times as the physician determines to empty the uterus by artificial method, I wish to place my emphatic preference to abdominal Caesarean operation to the application of forceps or any other method mentioned. My reason is that it requires so little time to do a Caesarean section—from eighteen to twenty-five minutes, requires less anaesthetic than to conduct a forcep delivery, produces less shock, and avoids the usual traumatism due to forceps, presents a clean-cut wound in sterile tissue, whereas the wounds caused by forceps occur in tissue easily infected. For the past five years, in the practice of myself and my associates, we have performed twenty or twenty-five Caesarean operations, I do not recall the death of a mother or child. The operation may be spectacular, but in my opinion is easy, quickly performed, safe and in every way to be preferred to any other method of procedure in these cases, demanding immediate relief.

Dr. J. L. Adams, Monroe: I want to stress one point that Dr. Stafford made. He said the mother was not getting a fair deal. Just who is responsible for that unfairness is a question. It is not always the physician, for the reason that many times the patients are scattered far and wide over a district and it is almost impossible to see them as frequently as the doctor would like. That is where the patient does not get a fair deal—they are not looked after properly. Of course, it is impossible to have them under constant observation, but they should be looked after a little closer than is

customary. It makes little difference what the causal element is which produces the emergency, but with the man in the small town these are practically all emergency cases when they get them, and consequently they have to act as the emergency demands.

Adjournment until eight o'clock.

UNUSUAL CASES SHOWING DIAGNOSTIC VALUE OF THE X-RAY.*

By LESTER J. WILLIAMS, M.D., Baton Rouge, Louisiana.

With a good case to present, a lawyer arranges his evidence, and should he deem it sufficient he allows the testimony to plead for itself and submits the case to the jury without argument. Emulating the example of my friends among the disciples of Blackstone, I am submitting four cases—Fracture of the Tibial Spine, an Osteochondroma, Schlatter's Disease and Perthes' Disease—in support of my paper's title, entirely without argument.

FRACTURE OF SPINE OF TIBIA.

The rarity of fracture of the tibial spine can best be shown by a reference to the American literature on the subject. Kurlander, in 1915, reported a case of this nature which he had previously seen. This was only the second time that an article upon this type of fracture had appeared in America. For reporting the first case the honor should go to Pringle. In 1907 he reported two cases, one of these being an American. Both cases were operated upon by suturing the tibial spine to the tibia. This seems to be the earliest recorded history of operation in this class of cases.

Pringle went a bit farther in investigating the actual cause of the fracture by experiments upon the cadaver. His final conclusion was that excessive tension upon either the anterior or posterior crucial ligaments (depending upon whether the leg was extended or flexed) caused the avulsion or fracture of the tibial spine.

The following case, for which I am indebted to Dr. R. C. Kemp, rather clearly illustrates the way in which the force which fractured the tibial spine was transmitted by way of the posterior crucial ligament. In this case the knee was flexed with the posterior crucial ligament tense at the time of the accident.

W. J. McL., aged 31, a boilermaker's helper, was engaged on January 20, 1920, in cutting the bolts holding an intermediate

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tower head to the flue sheet. Standing under the head he cut the last bolt and noticed the head falling towards him. In this position the tower head, weighing about seven hundred pounds, struck him on the left thigh. He was knocked down and with his left knee still flexed and very much abducted, the metal block fell over on his knee. He suffered severe pain and was unable to extend the knee.

Twelve days after the accident (February 7, 1921) an X-ray examination revealed a complete transverse fracture of the spine of the left tibia, with both inner and outer tubercles involved. A plaster of Paris cast was applied and a second X-ray examination showed the position to be good.

After six weeks of extension the plaster cast was removed and active and passive motion begun. The ease made an uneventful recovery with a complete restoration of the normal function.

CHONDRA-OSTEOMA.

Osteochondroma, while a developmental exostosis, is frequently diagnosed as sarcoma and in the case I am reporting, the advantage of being able to exclude malignancy before operation is rather apparent.

I am indebted to Dr. W. R. Eidson for referring to me this interesting case of chondro-osteoma; a case similar to the one reported by Dr. George P. Muller, except that Dr. Muller's patient was a boy with the growth on the humerus, and this a girl with the tibia as the site.

R. S., aged 14, weight 94 pounds, height 50 inches.

Family history: Both father and mother in good health, the former 57, the latter 51. Three brothers, two living and well, one died at age of four with measles. Three sisters, two living and well. The patient's twin sister died at age of 18 months of cerebral hemorrhage. Maternal grandmother died of carcinoma of the uterus, aged 55. Aunt on father's side died of carcinoma of uterus. No tuberculosis in family.

Past history has no bearing upon case.

Present illness or complaint: About four years ago, when taking off shoe, noticed a slight swelling on front of left leg just above ankle. Had never noticed it before, but had felt that shoe was a little tight. Since then swelling has grown to present size. Occasionally a sharp pain lasting only a moment was felt in the swelling, otherwise it has been practically painless. A few

months ago, after a bruise. the place has been tender to touch, but has not interfered with walking.

Physical examination: Shows well developed and well nourished white girl. No general adenopathy, anemia of mucous membranes of eyes and lips. Throat normal. Eyes react to light and accommodation. Lungs negative. Heart shows systolic murmur over base, no enlargement. Abdomen negative. Upper extremities negative. Lower extremities: On the anterior surface of the lower third of left leg is seen an enlargement about the size of a lemon. This enlargement is of a bony hardness and apparently attached to the tibia. Circumference of leg over enlargement is $9\frac{3}{4}$ inches, as compared to $8\frac{1}{4}$ inches in right leg. Patellar reflexes active but not exaggerated.

Blood: Hemoglobin 70. Red blood cells, 3,725,000. White blood cells, 7,000. Neutrophiles 56%, Lymphocytes 42%, Eosinophiles 2%.

Urine: Negative.

X-ray findings: A dense bony tumor, arising from the anterior surface of lower third of left tibia, extending from the epiphysis to a point 5 cm. above the epiphysis. The tumor appears lobulated and seemingly growth springs from periosteum. In the postero-anterior position the growth measures 32 mm. by 35 mm., the lines of the tibia in this position seem intact. A lateral view shows the tumor projecting anteriorly 16 mm. and exhibits bone production within tumor; this bone is laid down perpendicular to shaft. With no signs of invasion the tumor was declared not malignant and classed as an osteoma.

Under ether anaesthesia the bony cartilaginous tumor was exposed and removed by chiseling close to the shaft of the tibia. Eleven days after operation the case was skiagraphed while still in plaster of Paris, and revealed a perfect operative result.

Now, a year and a half have elapsed and the little girl presents no evidence of her former trouble, she dances and plays with ease, showing no indication of any difference in the use of the legs.

Remarks: Osteochondromas, usually multiple, appear as a rule in the adolescent period of life.

1. Muller, George P. Chondro-Osteoma of Humerus in Young Boy. *Surgical Clinics of North America*, February, 1921.

SCHLATTER'S DISEASE.

This affection, also known as Osgood-Schlatter's Disease, is a separation of the anterior tubercle of the tibia, and due to the interest awakened by the articles written by Osgood, Schlatter and Dunlop, additional cases of this rare condition are being reported.

The word disease is used, although the majority of authorities class it as an injury rather than a true disease. Instead of trauma others have mentioned tuberculosis, syphilis and late rachitis as causative factors. While those presenting the latter theory are greatly in the minority, I am inclined to believe that there is a predisposing cause with trauma as the exciting cause of the condition.

Solier suggests that an endocrine insufficiency may be responsible for the trouble in the absence of a definite history of injury. Tubby presents a case in which he states that "the affection occurred spontaneously in the left knee of an overgrown boy of 12 years." Isn't it possible that a derangement in the glands of internal secretion could account for Tubby's case as well as the one I am reporting through the courtesy of Dr. Tom Spee Jones?

The case history follows, but note particularly that this boy of 15 weighs 205 pounds, somewhat of an argument in favor of the endocrine insufficiency.

J. G. P., aged 15, weight 205 pounds and 64 inches tall.

Family history: Father, aged 42, in good health, mother, aged 43, health also good. The only living grandparent is the maternal grandfather who at 82 is in remarkably good health. No hereditary diseases are noted in causes of death of patient's relatives. He is the oldest child in a family of five children. A brother two years younger was discovered to have had hydrocephalus when one year old and was under active treatment for this condition for two and a half years. At present this boy, at 13, is much oversized, is 6 feet tall, weighs 120 pounds and wears a 7¾ hat. He has always been precocious and is well in advance of children of his age.

The other three children are all healthy, none of them showing the overgrown characteristics of their older brothers.

Past history: Measles at age of 10, influenza at 11, followed by an attack of varicella.

History of injury: During a game of football, in attempting a long kick, he felt a sudden sharp pain in the right knee, and for some time was unable to extend the knee or put foot to ground.

Physical examination: An overgrown white boy, who walked with great difficulty, presenting a definite point of tenderness over the tubercle of the right tibia. He complained of pain upon motion, seeming to be relieved upon elevating and resting the leg. There was some swelling noted in front of and below the tubercle of the tibia. The ligamentum patellæ was abnormally prominent.

X-Ray findings: An avulsion of the tongue-shaped tubercle of the right tibia.

Treatment: A plaster of Paris bandage was applied, patient put at rest with a complete subsidence of all symptoms. No X-Ray examinations were made after the initial one as condition was so completely relieved that this was deemed unnecessary.

Summary: Schlatter's Disease is usually seen during the adolescent period, and almost always in active boys.

There is an underlying predisposing factor, probably an endocrine insufficiency.

Trauma furnishes the exciting cause whether in the form of a direct blow to the tubercle of the tibia, a cross strain or from frequently repeated light blows. Similar to this condition is the "Sprain fracture" described by Callender in 1870.

Pain, tenderness and swelling near the tubercle of the tibia (the so-called Rugby knee) constitute the principal symptoms.

Prognosis is good if leg is put at rest by immobilization.

PERTHES' DISEASE.

Whether we call osteochondritis deformans juvenilis of the hip Perthes', Legg's, Calve's Disease, a combination of the three names or Coxa Plana the fact remains that we are dealing with a most interesting condition, especially as it has been so often mistaken for tuberculous hip. The claim of Waldenstrom for priority in recognizing the condition as a "morbus sui generis" should be ruled out, for his writings of March, 1909, decisively contend that the disease was of tuberculous origin.

Legg is really entitled to the honor of being the first to write up on the subject but he failed to suggest the pathology, and

for this omission has failed to receive the recognition that is properly due him.

The etiology is rather obscure, although Legg is of the opinion that trauma produces damage to the blood supply, and that the changes in the ossification of the bone are secondary to this damage.

From an X-Ray standpoint the point to be particularly stressed is the wide discrepancy between the mild clinical symptoms and the alarming bone changes that the X-Ray skiagraph shows.

C. P., 8 years old, returned from school complaining of a "cramp in left leg." He denied having been injured, and repeated questioning on the part of the father failed to have the boy alter this statement in any way. At this time there was a slight limp, which he attributed to the pain in the thigh. He had no elevation of temperature, and the family dismissed the condition as trivial. Persistence of the limp for five months together with an atrophy of the left hip and buttocks caused the family to have the child examined.

Family history seems rather negative as no history of tuberculosis or syphilis could be elicited, nor does anything in the boy's past history have any bearing upon the case.

Physical examination: A small undersized Italian boy with a mentality below that of a normal 8 year old boy, was seen. While his general health appeared good, he seemed poorly nourished. He walked with a slight limp and it was noticed that there was a slight atrophy of muscles of left hip and buttocks with an apparent prominence of the great trochanter. There was no shortening of the left leg and the tenderness of left hip was not marked, as he complained of no pain in jarring heel. Flexion of the affected limb was fairly good, extension somewhat limited. Abduction of hip markedly limited. Rotation of flexed femur moderately limited. No signs of Crepitation.

X-Ray examination: The entire pelvis was skiagraphed for the purpose of comparing the seemingly normal right side with the affected left. The right femur is normal for an eight year old boy; the upper border of the left femoral head instead of its natural curve is "mushroomed" into a flat uneven surface. The epiphyseal line between the head and neck is irregular.

There is a blurring or haziness of the acetabulum, in its articular surface, more particularly the iliac portion.

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DISCUSSION.

Dr. A. Henriques, New Orleans: Dr. Williams has presented a very interesting paper from several points. While he has confined his remarks to the osseous system, it is a frequent occurrence for us to find, not only in the osseous system, but in other parts of the body, unusual findings with the X-ray. The X-ray has come in for more or less criticism at these meetings and I would like to refer to the paper of Dr. Willis yesterday in which he said that the X-ray findings in osteomyelitis might lead to harm or be misleading. In acute osteomyelitis we do not attempt to derive any information from the X-ray except, perhaps, in a negative way. In the early stages of acute osteomyelitis we see no bone changes with the X-ray, and for seven or eight years we have not tried to show the changes of acute osteomyelitic cases, because they do not show. In making an examination of the bronchial tree for suspected foreign bodies, if there is a metallic foreign body it shows up very readily. If there is a foreign body which is non-metallic, it casts no shadow, but very often it acts as a valve and we can frequently determine the location of that foreign body. Some cases that present perhaps clinical evidence of tuberculosis will show the location of this non-opaque foreign body by the appearance of the lung on the affected side; we find a flattened diaphragm, a restriction of motion, and an emphysema

on the affected side. Fractures of the spine of the tibia are very difficult to recognize without the X-ray. Where there is an elevation of the tubercle of the tibia it is sometimes a question whether that separation is normal or not, the variations from the normal are so great that at times it is difficult to say whether we are dealing with a normal separation or with something that is due to trauma.

The doctor emphasized correctly the important point that in Perthes' disease the discrepancy between the clinical symptoms and the amount of disease present is sometimes very marked. This proves that the X-ray shows that we can have mild clinical symptoms and yet a great amount of pathology. This is true not only in Perthes' disease, but in other conditions. Take cancer of the stomach—the symptoms may be mild and yet the X-ray will reveal a very extensive amount of disease. The same thing is true in other parts of the body—in the lung. It is becoming customary to X-ray the lungs before operating upon cancer for fear that metastasis has already taken place although the clinical signs may be very slight.

Dr. Isidore Cohn, New Orleans: I am sorry that Dr. Williams has not shown his pictures, particularly in regard to the factor of tubercle of the tibia or the tibial spine. Unless one knows the appearance of the normal tubercle of the knee or the normal joint he will be at a loss to make the diagnosis. For some reason I thought Dr. Williams was going to present one of the cases I happened to have along with him, a normal knee of a boy about fifteen which shows an apparently marked separation of the tubercle of the tibia. That is the normal appearance of the tubercle of the tibia. It travels from above downward and there is apparently a wide separation. This is cartilaginous, and is not a real separation at all.

I want to take issue with Dr. Henriques, and that is that we must not depend on the X-ray for diagnosis in fracture of the tubercle of the tibia. The doctor says, however, that he means the tibial spine. There we are bound to have a certain amount of effusion into the joint with localized pain, and while we should depend largely upon the X-ray, let us not begin to depend on it too much but try to make a diagnosis by some of the clinical manifestations.

Dr. J. T. O'Ferrall, New Orleans: I am glad the question came up in regard to the tibial tubercle and the tibial spine. There should be a very distinct differentiation of these two structures. A fracture of the tibial spine is very much more serious and very much more difficult to diagnose and cure than the separation of the tibial tubercle, and for the audience to get the two structures confused is rather unfortunate. We ought to lay a great deal of stress on the fracture of the tibial spine and the separation of the tibial tubercle. I do not think we ought to get into the habit of interchanging these two terms.

Sir Robert Jones of England has probably done more knee joint surgery than any other living man and has written some very wonderful articles on the subject of diagnosis of fracture of the tibial spine. He has concluded very definitely that it is due to an **avulsion** by the condyle of the femur. It is not apropos for me to discuss the cause of this fracture or its treatment, as the doctor's paper was on X-ray diagnosis. The point I want to make is the distinction between these two structures.

The most important part of Dr. Williams' paper is the early diagnosis of Legg's disease. It is a difficult diagnosis to make and is so frequently confused with tuberculosis. X-ray diagnosis is of the utmost importance and certainly it is primary to the clinical symptoms. In a case of so-called quiet hip disease with slight limitation of motion the child certainly should be subjected to careful and repeated X-ray examination.

THE PREVENTION OF OTITIS MEDIA AND SINUSITIS IN ACUTE CORYZA AND INFLUENZA.*

By M. P. BOEBINGER, M.D., New Orleans, La.

In considering the chain of pathological conditions consequent to an acute coryza, never was the old adage of "An ounce of prevention being worth a pound of cure" more applicable. Chronic otitis media with diminished acuity of hearing, a fetid aural discharge may be looked upon as minor inconveniences; but when we consider mastoiditis, cerebral abscess, and lateral sinus thrombosis as possibilities, the simple coryza, and influenza rhinitis as a potential destroyer of life must not be ignored.

There is a traditional belief among laymen that dentition and running ears are two perfectly normal physiological conditions that occur in the life of every child, and often the general practitioners lay too little stress upon its occurrence.

The occurrence of otitis media in infancy is principally favored by the anatomical peculiarity of the infantile eustachian tube. The tube in the new born and very young is short, wide, and placed very low, near the floor of nose. It contains abundant myxomatous tissue, which is excellent culture medium for invading bacteria.

In addition to anatomical peculiarities in the tube itself, middle ear catarrhs are traceable to acute or chronic changes of the nasopharyngeal tract in the majority of cases, and which may lead to catarrhal involvement of the sinuses and middle ear. Disturbed ventilation of the sinuses and the tympanic cavity always leads sooner or later to catarrhal or suppurative affections.

It may easily happen that the mucus present in the pharynx, aspirated fluid, etc., may enter the tympanic cavity of the very young during deglutition and vomiting, especially when in the recumbent position. Frequent changes of position should be made, that there be no accumulation of mucus in the nasopharyngeal space.

Furthermore, there seems to be a possibility that in infants and young children up to the age of two or three years, who suffer from serious affections, there occurs spontaneous supuration of the mucus tissue in the middle ear, owing to general debility and anæmia. In these cases the micro-organisms,

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which are always present in the nasopharyngeal tract, but cannot bring about a purulent inflammation in a healthy child, may lead to suppurative decomposition of the mucous tissue of the tympanic cavity, which is an easy prey to infection and purulent transformation. The healthy tympanic cavity is germ free.

Symptomatic Peculiarities: The most important point is that in infants and young children there may exist not only catarrhal affections, but also purulent inflammations of the middle ear, with apparent light or without any symptoms, in spite of serious conditions. The author recommends examining the ears of infants and young children in all febrile affections "Even in the absence of ear symptoms." It is not before the fourth month that infants direct attention to the possibility of an auricular affection by rubbing the ear, putting the hand to the head, crying whenever the ear or its vicinity is touched, and even avoiding to lie on the affected side.

Premonitory Signs and Symptoms of Aural Involvement: As the infections of the ear in the great majority of cases take place through the Eustachian tube, the symptoms first involve that organ, a feeling of fullness and stuffiness, cracking noises when blowing the nose, periods of sudden deafness alternating with periods of almost normal hearing. These changes in aural acuity are sudden and depend on the occlusion and patulousness of the Eustachian tube. Subjective noises and autophony are experienced. The pain is at first lacerating and neuralgic in character, felt only at intervals. It then becomes constant and increases in intensity. This latter change indicates that the pathological process has passed beyond the Eustachian tube, and an acute inflammation of the tympanic cavity has been established.

Functional tests are of the greatest diagnostic and prognostic importance where any involvement of the middle ear is concerned, and too much stress cannot be laid upon its application in the condition under discussion. The simplicity of procedure in making the watch or whispered voice test should recommend them. A slight involvement of the pharyngeal end of the tube will cause a diminution in the acuteness of hearing, which can be elicited by examination. In babies and very young children, the subjective examination is not of very much value, but pain

with sleeplessness, restlessness and manipulation of the auricle, will draw the attention to the ear. Then is an otoscopic examination imperative.

An extremely characteristic symptom of acute infantile otitis, is the sudden onset of fever, in which the temperature reaches the highest possible degree in the first few days. Temperature of 104 to 106 degrees is by no means rare. The fever is of the continuous type, and the return to normal or subnormal is usually a sign of complication. After complete development of an empyema of the middle ear, the fever may abate or entirely disappear without perforation of the drum, but spontaneous perforation may still occur later.

It should be most particularly emphasized that in influenza otitis, nothing but timely energetic measures can promote an uncomplicated favorable course, and the prevention of complications. "It is advisable not to wait for spontaneous perforation, but to affect an early relief of the middle ear by paracentesis."

Earache seldom attains such a degree of severity in adults as in children. The pains are seldom continuous, but intermittent. They increase particularly in the afternoon and night, and again remit in the course of the day.

Diagnosis: Based on the triple symptom complex. Pain in the ear, diminished hearing acuity, temperature, and the otoscopic picture should assist the aurist to a correct diagnosis.

Hearing test in infants: Use well known noises, such as striking a bell, glass, rattling keys, etc.

Prognosis: The prognosis is favorable in otherwise robust, well nourished patients. Early energetic treatment should be instituted.

Treatment: (Local) In order to prevent infection of the sinuses and the middle ear from the nasopharyngeal tract, use very warm normal saline irrigations three times daily (with head lower than the plane of the body) using medicine dropper for infants, and irrigator for adults. (Do not use too much force.) Instillations of 5 drops of a 1/16, 1/8, 1/2 per cent solution silver nitrate, or five per cent solution of argyrol into the nose (one hour after salt solution has been used), with frequent changes of position that there be no accumulation of mucus in the nasopharyngeal space. Adrenalin plugs (sol. adren glycer-

in and aquæ) may be inserted into the nasal canals, or the same formula can be used as a nasal spray every three hours. This, and the careful washing with normal saline solution three times daily, and the careful cleansing with cotton tips saturated with vaseline oil or a $\frac{1}{2}$ per cent of menthol vaseline solution, will keep the same permeable.

Inserting cotton plugs or gauze strips saturated with anodyne or astringent remedies, or corresponding instillations into the affected ear.

Ac. Carbol.	dr. j.	Phenol	gr. x.
Glycerine	oz. ss.	Cocaine Hydroc.	gr. iv.
Aquæ q. s. ad.	oz. i.	Atrop. Sulph.	gr. 1-100
M. Sig.: Three to five drops instilled into ear canal every 3 to 4 hours.		Glycer.	oz. ss.
		Aquæ	q. s. ad. oz. i
		M. Sig.: Five drops into ear canal every three hours.	

Severe earache is sometimes relieved by instillations of 3 to 5 per cent carboglycerin solution or anæsthesin and adrenalin. A cotton tip, saturated with 5 per cent cocaine or novocain solution, is inserted up to the drum membrane. This may have a very good, though only temporary, effect. Rest in bed and free purgation are essential.

Anæsthesin in 2 to 5 per cent oil solution instilled into ear channel is very efficacious.

Insertion of cotton tips saturated with warm adrenalin solution has a temporary beneficial effect. Applications of heat (compresses) and irrigations of *very warm* salt solution, has a favorable effect. In other cases, again, cold compresses exert a better effect. Warm saline irrigations for ear canal and nasal chambers act very favorably. Hot boric compresses for the relief of attacks of pain. A piece of linen or heavy layer of cotton the size of the palm of the hand, and dipped either into lukewarm water or a weak Burrow's solution, (5:25) or into a solution of tincture of opium. This is now laid upon the region of the ear, covered with oiled silk, and bandaged with a dry cloth. Such an application is changed 3 or 4 times daily. Many times the warm applications are not borne well, in which case one must apply cold applications. (If the patient is unable to sleep on account of pain, it is advisable to give some narcotic; only when necessary).

A mixture of olive oil and chloroform in equal parts to rapidly reduce the painful attack; this latter remedy is more effec-

tual if 20-30 drops are poured on a piece of cotton the size of a saucer, and applied to the region of the ear. A $\frac{1}{2}$ per cent aqueous solution of carbolic acid, to which a one per cent saline solution is added. Five to six drops of a one per cent cocaine solution, and an equal number of drops of adrenalin chloride solution into the nostril, with the head lower than the body and inclined towards the affected side, by which the drops of the fluid reach the epipharynx, lateral wall of pharynx and pharyngeal orifice of the Eustachian tube.

Use nail of index finger to remove adenoid vegetation only in vicinity of Eustachian tube and Rosenmuller fossa. This has given the author excellent results. (This can be done at home or office.)

Physical and mental rest, and copious evacuations of bowel tract are of importance. Hot sweat baths are also helpful. Aspirin, phenacetin, salicylates, and etc., are internal remedies which may have an anodyne effect. These remedies, taken in hot lemonade, are recommended at the beginning of the disease, to produce powerful diaphoresis. Opiates should be avoided, if possible.

The patient should remain in bed as long as the temperature is elevated. As soon as this returns to normal, which is usually the case on the third or fourth day, resorption of the middle ear exudate are assisted by the application of Politzer's air douche. (This can be done at home.) Alcoholic beverages, strong tea, coffee and tobacco, are to be avoided. In considerable pain and fever all anodyne remedies will soon lose their effect. In these cases it is advisable not to wait for spontaneous perforation, but to perform paracentesis without delay.

The hearing acuity is tested before and after an insufflation, and if the hearing is found to have improved, it is an exceedingly favorable prognostic sign.

Opening of the tympanic membrane by paracentesis is indicated if conservative measures bring no relief, the pains continue, and the temperature does not recede to normal. The time for action is determined by the following considerations:

Adoption of a waiting attitude without any definite purpose in view is not correct. The fact should always be kept in mind that in doubtful cases it is always better to carry out paracentesis than to neglect it. Early paracentesis is important, as

its omission may be responsible for the sudden development of a grave cerebral symptom complex, (meningism) and other serious complications.

Paracentesis, if carried out under such aseptic precautions as are possible in the ear, is not fraught with much danger. (Literature reports several severe hemorrhages, following paracentesis; this, however, is rare.) It is only when paracentesis is done under unclean conditions that the danger exists of transforming a simple into an infectious purulent middle ear inflammation. On the other hand, omission of timely paracentesis may cause irremediable damage, which may lead to severe complications and even death.

After the inflammatory manifestations have abated, and the tympanic membrane is no longer hyperemic, treatment of the nasopharyngeal tract must be instituted. Surgical interference should be instituted as early as possible.

The patient should not leave his room in cold or stormy weather, until all the reactive symptoms have disappeared. If, however, the patient has fever, he must remain in bed. Where we wish to stimulate perspiration, by which the pains are rapidly relieved, we allow the patient to drink a cup of hot tea or lemonade, to which we add aspirin grs.-5, every 4 hours. The salicylic preparations all produce sweats. In the reactive stage the diet must be regulated, and the use of alcohol and tobacco forbidden. A purge of calomel often brings about rapidly a feeling of relief. Paracentesis of the drum membrane is indicated in acute middle ear inflammations only when, with constant accumulation of secretion in the middle ear, the severe pains continue, with or without fever, in spite of every local medication. Paracentesis is contra-indicated in the milder forms of acute middle ear inflammations.

Sims treatment: The treatment of a given case of sinus disease depends upon a great many conditions. Not only the precise stadium of the disease, but the individual symptoms present are the keynote upon which to base our therapeutic efforts. The author recommends prompt and energetic means.

When a patient's mucous membrane of the nasal tract is hyperemic and engorged, headache, fever and all the symptoms of an acute inflammation, we must necessarily accept that the mucosa of the sinuses are sympathetically affected, for such is,

indeed, the ease, since influenza has generally been considered the most potent factor in the causation of sinus affections.

The precise rationale why the bacillus shows especial predilection for the mucous membrane of these structures, has not yet definitely been explained. Whether the organisms gain entrance through the air passages, or through the blood, appears also to be an undetermined question. Some authors claim that the sinuses are always diseased at some time during the course of influenza. The writer believes that since the lining membrane of the sinuses is the same as that lining the nasal cavities, only in a more modified form and on account of the proximity of the sinuses to the nasal chambers, and knowing that the natural habitat of the influenza bacillus is the nasopharyngeal tract and that all inspired air must travel through the sinuses, that this explanation seems the most reasonable.

We must put the nose in the best possible condition to examine the drainage passages of the sinuses. A hot normal salt solution should be used, and the nose thoroughly irrigated, after which a mixture of a 5 per cent solution of cocaine to which has been added a few drops of a 1/1000 solution of adrenalin and a 2 per cent antipyrin solution, applied on a cotton pack, (tied with a heavy thread, and the patient told to remove it in about one hour, by pulling on the thread) thus insuring good depletion. This in itself will frequently occasion the greatest relief to the patient, especially if the sinuses are not seriously affected. Our next step is to ascertain whether the sinuses are secreting pus. We have two main objects to attain: (a) to keep the patient comfortable, and (b) to allay the inflammation and prevent sinusitis and otitis media. The first part is carried out by keeping the drainage passages as clean as possible. This may be accomplished in several ways: First, by applying a strong solution of cocaine, adrenalin, and antipyrin at least twice daily, and after the parts are thoroughly contracted, to irrigate the nose with a hot saline solution. This latter has two principal actions: First, to wash away any superfluity of cocaine, thus preventing its being absorbed into the general system; and, secondly, to relieve the engorgement of the sinus mucosa. Between treatments, deep inhalations of Menthol dr. one, Tr. Benzoin comp oz. four, through the nose every two hours. Two tablespoonfuls to half pint of water on

gas stove, and allow to boil. Sitzings should last at least 15 minutes. This will usually suffice to keep the nose clear. The menthol and heat act as a stimulant and depletory on the swollen and inflamed mucosa, causing an increased flow of secretion with reduction of turgescence. In this way the drainage passages are gradually opened, thus allowing the pent-up secretion to escape, the sinus mucosa to become medicated with the vapor, and the pressure symptoms (headache, congestion, etc.) to be relieved.

The second object is to allay the inflammation. This is accomplished both by local and general treatment. When practicable, the electric-light head bath, consisting of several incandescent lights which are made to shine directly upon the face of the patient (the eyes being protected) may be used to considerable advantage. The rationale of this method is to produce an active hyperemia, which acts in the same manner as heat applied to any acute inflammation. Sweating is promoted to enforce the action of the hyperemia by the administration of $7\frac{1}{2}$ to 15 grs. aspirin in hot lemonade half an hour before the electric-light bath.

Local treatment: Ice cold compresses over the eyes, forehead and temples; hot fomentations or hot water-bag may be substituted if the cold proves disagreeable, the writer's experience proves the latter to be better borne. In this way it is usually possible to cure the acute attack in from 48 to 72 hours. If, in spite of our treatment, the inflammation progresses and the symptoms become dangerous, it will be necessary to resort to a surgical procedure, the severity of which will depend upon the virulence of the disease. Just as soon as the attending rhinologist can succeed in shrinking the nasal mucosa, he should apply a silver nitrate 4 per cent solution after first using eocaine and adrenalin. This should be repeated every 24 hours, and, during the interval, an argyrol 10 per cent solution as a spray, high up into the nasal chambers every two hours. The above treatment in acute coryza and influenza, if carried out early enough, often aborts sinusitis and otitis media.

The usual custom of administering hot alcoholic drinks to cause diaphoresis, is strongly to be condemned in patients suffering from possible sinusitis and otitis media. Alcohol invariably add fuel to the fire by causing congestion of the cran-

ial circulation. Coffee and tobacco act in a similar manner, but in a milder degree.

After the calomel has acted, Spts. Ammonia Arom. M xxx every hour, is given for 10 hours, after which the following is prescribed:

R—Sodil Salicyl

Quinia Bisulph

A A Gr. XXX

Pulv. Ipec. et Opii

Gr. XV

Fiat. Caps. No. XV.

Sig:—One capsule every two or three hours.

DISCUSSION.

Dr. J. T. Crebbin, New Orleans: I wish to emphasize the point which the essayist brought out, that in the examination of children, especially when cross and irritable, we more frequently find the cause in the ear than in any other part of the anatomy. In the beginning, fever is to be taken into consideration, but only for the first few days. After that it is not an infallible sign. Sometimes, we as physicians, make a mistake by taking fever into consideration after the third day. A complete tympanotomy should be done in the beginning; do this absolutely when you are in doubt. It is better not to procrastinate, and then find you have mastoid involvement.

I question the practicability of using irrigations. That can be done in your own hands, but the laity should not be advised to use it. Frequently they will drive the infection farther back and set up a greater trouble in the mastoid process. The question I wish to emphasize, is, that I do not believe in using irrigation or allowing the laymen to use it. But if you insist upon using it, use it yourself.

Dr. C. A. Weiss, Baton Rouge, La.: The doctor has evidently tried to follow the plan of making the paper of this special section appeal to the general man, and has, therefore, gone into more detail than were this paper read before a body of ear, nose and throat men exclusively. One of the most prolific sources or causes of middle ear and sinus involvement, in my opinion, is the improper way of blowing the nose—one nostril should be gently blown at a time, and the greater the infection of the nasal mucous membrane and the more plentiful the secretion, the more carefully should the nostrils be blown. The reason should be apparent to every one. Where the mucous membrane of the nose and nasopharynx is congested and the passages occluded with mucous or muco-pus, a 10 or 15% silver albuminate will undoubtedly help to remove the secretion, and by its defusability prevent to a large extent the involvement of ears and sinuses. If the nose and throat specialist can devise some positively efficient preventative he will be in a fair way of killing the goose that laid his golden egg.

Dr. Cathrell: What does Dr. Boebinger think about autogenous vaccine?

Dr. M. P. Boebinger (closing): In answer to Dr. Crebbin, I repeat, that, in order to assist the infant and prevent acute coryza and sinusitis, I always have the infant laid across its mother's lap with the head lower than the body, and then use a normal salt solution, and tell the mother how to use it to wash the nasal cavities. I do not remember any case where this has caused mischief. In the infant you do not have the development of the sinuses, and the possibilities of causing mischief by washing is certainly reduced to the minimum. Your organism is usually mixed. Incidentally, probably all children are born with adenoids, but they do not all come to the operating stage. Washing the nose of the infant or even

of grown people will not cause mischief if you use a weak solution. However, do not extend the irrigator farther than a foot above the head. You may use large ear syringe for irrigation, do not use much force.

Dr. Weiss says that Dr. Goldstein does not permit his patient to blow his nose. I will put it up to any intelligent man here—if your nose is stopped up and you have an acute coryza and influenza, do you blow your nose? Blow it one side at a time and not too forcibly because there is always a chance of infection of the sinuses and middle ear.

THE LATE TREATMENT OF FRACTURES OF THE LONG BONES OF THE LOWER EXTREMITY.*

By JOHN T. O'FERRALL, M. D., New Orleans, La., Consultant Orthopedic Surgeon, U. S. Veterans' Bureau; Dist. No. 6; Chief, Orthopedic Service, Charity Hospital; Chief, Orthopedic Service, New Orleans Dispensary for Women and Children; Senior Orthopedic Surgeon, Touro Infirmary.

The title of this paper is meant to indicate the treatment of fractures of the lower extremity after the reduction or attempt at complete reduction has been accomplished.

The object in presenting the paper is to bring to your attention again a few long established facts in relation to the formation of callus, in the repair of bone tissue, and its adequate protection. While all are familiar with the function of callus, yet it is almost a daily occurrence that one overlooks its properties and disregards the limit of its endurance.

When a normal bone sustains a fracture nature, almost immediately, begins its repair by throwing out granulation tissue composed chiefly of osteoblasts. This occurs whether complete reduction has taken place or not. If complete or functionally complete reduction has taken place the cohesive quality of the callus begins the union of the fragments. While this thin callus cannot be demonstrated by X-Ray or palpation, yet its power of fixation, assisted by normal muscle action is more than sufficient to maintain apposition of the both ends. This apposition is continued by proper splinting until the callus has matured and the calcium deposit has taken place sufficiently to approach the consistency of bone. Among the inexperienced and the uninitiated one finds the common error that of applying splints very tightly to maintain the position of fragments. Such practice leads to so many cases of ischæmia and many painful hours for the patients, when it is well known that after reduction

*Read before the Louisiana State Medical Society Meeting April 11 to 13, 1922.

of a fracture pain ceases and only gentle but firm pressure is required to assist normal muscle splinting.

If one considers the type of fracture with which he is dealing, excluding spiral and very oblique fractures, it is known that sufficient union has taken place within a period of from two to three weeks to permit of careful removal of the splint and the beginning of active motion of neighboring joints. I wish here to lay stress upon active motion rather than passive. Great damage can be done by passive movements but it is seldom that a patient will indulge in active motion beyond the point of pain which represents the danger zone. It must be borne in mind, however, that active motion does not mean weight bearing in any way, especially as relates to fractures of the bones of the lower extremity. For many years it has been the teaching of text books and many lecturers that after the reduction of a fracture and proper splinting, the splints should not be removed until six weeks have elapsed at which time complete union has taken place. This is a grave error and cannot be too vigorously condemned. The neglect of early motion in joints adjacent to fractures has in many instances been productive of a disability far greater than that produced by the fracture itself if unwisely treated. Such teaching also fails to put emphasis upon this careful early motion to promote the circulation thereby assuring the formation of callus and avoiding many instances of non-union.

The most common types of fractures of the lower extremities are familiar to all present. Many do not, however, discriminate sufficiently between the ordinary transverse fractures and those of the extremely oblique and spiral types. It is these latter types and those in the neighborhood of joints which require more careful early splinting and extreme caution in the later stages of protection. It is these which are productive of disabling deformities and demand long observation along with function. The valgus deformity after a Pott's fracture, which was thought firmly united in an excellent position; the short leg after a fracture of the hip which left the hospital without shortening, and the outward bowing after a fracture of the middle one-third of a femur or tibia and tibia and fibula, are common sights and represent someone's lack of appreciation

for the properties of callus and the necessity for the adequate late treatment of the fractures under discussion.

Sir Robert Jones some years ago reported a large number of fractures of the lower extremity carefully treated in hospitals and accurately measured upon discharge and no shortening recorded. At the end of six months the greater proportion of these fractures were re-measured and nearly all found to have shortening. What is the answer to this experience? It is that callus formed in the repair of fractures is not sufficiently firm to permit weight bearing without protection for a period not less than six months and in many cases even longer. Therefore, the burden of my song is a plea for early function of joints in the neighborhood of fractures and the adequate protection of fractures upon the resumption of weight bearing and for a sufficiently long period to prevent deformity.

Bum of Berlin recently writes as follows: "The first physician treating a fracture, even the first aid procedures, may decide the fate of a limb. The general practitioner should master the mobilizing functioning procedures so as to know how to keep the broken bone still while the uninjured soft parts and joints are allowed to function.

"In mobilization the strictest individualization is imperative; the age, the site and kind of fracture must be considered in each case. Walking with protection aids consolidation."

In a late edition of Jones' *Orthopedic Surgery* the following paragraph is found: "Callus of septic fractures remains soft and easily becomes deformed for many months after it is apparently firm. The most efficient stimulus to rapid hardening of the union is to make the patient use the limb, but care must be taken that no bending can occur at the fracture. After any infection the patient must be kept in a caliper for at least six months."

It is incompatible with the best teaching for fractures of the lower extremities to be splinted for so short a time by the average surgeon as is apparent from cases so frequently seen. This unfair haste in pronouncing fractures cured is, no doubt, caused in many instances by the unreasonable demands of the compensation insurance companies who, if they only knew it, are adding trouble and expense to themselves and making a permanent cripple of many of the insured. This prolonged

expense and crippling manifests itself as shortening, non-union and a variety of deformities. A word of warning to these companies would be to pay adequate fees for intelligent care of these important injuries and insist upon functional end results rather than permanent disabilities.

I have made an effort to bring out a reasonable argument for the adequate protection of fractures of the lower extremities substantiated by the experience of others and personal experience. I now wish to bring to your attention the splint which if properly fitted gives adequate protection and permits weight-bearing without trauma to the new callus, that is the caliper splint. This splint of which I have brought an example, if properly adjusted transfers the weight to the pelvis at the tuberosity of the ischium.

It is seen that the caliper splint is made up of a ring of 5/16 round steel bar, slightly ovoid in shape, well padded and especially so at the inner and posterior aspect; this ring is set upon two 3/8 inch iron wire rods at an angle of 55° with the outer rod, these rods extending along the sides of the leg to the sole of the shoe where they are turned in at a right angle and fit with a steel tunnel through the anterior aspect of the heel of the shoe. They are held in the tunnel by a small ankle strap around both bars. The leg is further fixed by a posterior strap behind the knee and a knee cap over the knee joint.

The ring of the caliper is padded twice as thickly at the inner and shorter rod and is symmetrically depressed at either side of the inner rod to form a concavity which hugs the ischial ramus and fits snugly around the ischial tuberosity. The average size of the ring is 9½ inches across the long diameter and 9 inches across the short diameter.

The essential points in the fitting of a caliper are:

(1) That the ring must exactly fit the upper portion of the patient's thigh, taking its pressure at the tuber ischii.

(2) That the side bars must be just longer than the length of the injured limb, in order that when the shoe is fitted and the splint applied the patient's heel shall bear no weight. When a step is then made the weight is taken on the tuber ischii and the heel of the shoe.

To measure for a caliper splint:

(1) Size of ring—measure horizontal circumference of thigh at groin and add $2\frac{1}{2}$ inches.

(2) Length—Measure inside of leg from the crotch to the sole of the foot with the shoe on. (The brace maker then attaches the ring at an angle of 55° with the inside upright; the outside upright is then made accordingly.)

SUMMARY:

(1) Fractures when properly reduced have sufficient union very soon thereafter to permit function of adjacent joints. This joint function should be begun within a period of three weeks and is imperative.

(2) Continuous splinting without observation and joint function is condemned.

(3) Callus in the repair of bones begins to form at once but is not sufficiently hard to permit weight bearing without protection for a period of from four to six months.

(4) The function of joints adjacent to fractures is better accomplished by active motion carefully done than by passive motion.

(5) Protective of fractures of the lower extremity, at the same time permitting walking, is best done by means of the caliper splint which transfers the weight to the pelvis.

(6) The proper measurements for a caliper splint are extremely simple and should be familiar to all engaged in fracture work.

DISCUSSION.

Dr. J. A. Danna, New Orleans: I am not going to burden you with any technical discussion of these two papers, but I would like to leave here with a little increased conception of the importance of fracture of the leg. Here we are, a state medical society in session, and we find the subject taken up seriously by both a surgeon and an orthopedist. The burden of the song of both of them is that when you get a fractured leg, speaking of the subject in general, you must individualize your observation in order to make a proper diagnosis, and individualize your treatment according to the condition existing and as they develop in the case from time to time. Unfortunately, 90 per cent of fractures of the leg treated by the usual slipshod method, will get well functionally and your patient will go on and be all right; but in the other 10 per cent it may require all the skill and professional experience that the surgeon can possibly furnish. I want you to leave here with that idea, that a case of injury of the lower limb requires as much of your professional attention and as much time and contemplation of attention as any case you can possibly have.

Another point is that the earlier you institute treatment in these cases the better. It is very much easier to reduce a fractured leg under anesthesia and put on a simple plaster cast and get a perfect

result immediately after the injury than if you wait an indefinite time. But every injured leg cannot be treated in the same way; you cannot use a routine treatment for a series of fractures. Each individual case has its own special treatment.

Dr. E. S. Hatch, New Orleans: I want to add one word to what Dr. Danna has said, and that is that a fracture of the leg is an important thing to treat. I think we have all seen a great many bad results from improper treatment of a fractured leg. We think a fractured leg is a simple thing, but it is one that requires prompt diagnosis and scientific treatment.

Dr. Cohn made an interesting point about the knee joint. We are all thinking in terms of function today, especially those who do orthopedic work, and I believe that point about the knee joint is well taken. Too many times when there is fracture adjacent to the joint fluid is allowed to accumulate in the knee joint and the doctors seem to think that nature will take care of it. By this treatment function is delayed many months, where a simple aspiration of the joint, which is very easy, would remove the fluid at once.

Dr. Isidore Cohn (closing): Just one point in regard to aspiration, and that is, to culture the aspirated fluid at that time. If the patient has a temperature afterwards, and the first culture was negative, and then on the second aspiration you should find an organism, you know where the infection came from.

In regard to the statement of Dr. Danna, that 90 per cent get functionally well, I am a little afraid he has placed the percentage rather high. I believe that displacement, either laterally or backwards of the tibia or fibula, means disturbance of the normal relationships about the ankle, and I know nothing more important than the aid which the radiologist renders us in the antero-posterior view of fractures of the leg. This should always include the ankle.

Dr. J. T. O'Ferrall (closing): I simply want to stress the point that the callus is not hard enough to permit weight bearing in six weeks, as we are ordinarily taught. The thought that the callus does not remain soft for a number of months is unquestionably responsible for many deformities we have, as deformity of the middle third of the femur and bowing of the tibia. It seems to me very important to consider the softness of the callus and give added protection.

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EDITORIAL.

DISTRICT COLLABORATORS.

In conformity with the policy previously expressed in the Journal, attention is called to the addition to the Editorial Staff, in the form of the District Collaborators, representing all districts outside of New Orleans. This broadens the scope of the Journal and furnishes tangible means for personal contact with all sections of the State.

The functions of the Collaborators are embodied in the following abstract from a personal letter to the representatives of the various districts:

“For your information the functions of the District Collaborators is to furnish the Journal with all news items from their

respective districts, including removals, marriages, deaths and so forth. Also, it is intended that they shall furnish the Staff Proceedings of any hospital in their districts, conforming with the ideas of the American College of Surgeons to the extent of holding regular monthly scientific meetings. These proceedings should be furnished the Journal not later than the 15th of the month, should be typewritten in the third person and preferably in the form adopted for the Hotel Dieu and Touro Infirmary, as published in the Journal at present."

It will be seen, therefore, that any material intended for the Journal should reach the Editor through the Collaborator for the district involved.

NEW SUPERINTENDENT.

If deeds proclaim the man, then the management of the Eye, Ear, Nose and Throat Hospital has acted with far-sightedness and wisdom in the selection of Dr. Charles Chassaignac as Superintendent of the new hospital.

Dr. Chassaignac was one of the promoters and organizers of the former New Orleans Sanitarium. During his regime this institution prospered and successfully performed its various functions under his leadership. He was the organizer and successful Dean of the New Orleans Polyclinic, now the Tulane Post-Graduate School of Medicine. He was the successful organizer and Editor of this the only surviving medical journal ever published in New Orleans. Last but not least, he was pre-eminently successful in his profession. These are some of the accomplishments which speak for and apparently assure the future welfare of the Eye, Ear, Nose and Throat Hospital, certainly in so far as these depend upon an active Superintendent who has already proven his capacity for surmounting obstacles and "carrying on."

SOCIETY PROCEEDINGS.

**PROCEEDINGS
OF THE
HOTEL DIEU STAFF.**

Monthly Meeting for May, 1922.

The President, Dr. Homer Dupuy, in the Chair.

BLOOD CHEMISTRY.

Dr. Aldea Maher presented a brief outline of the work and significance of body metabolism as applied to the blood. Endeavor is made to test the various functions by minute chemical analyses and, if possible, to discover the first change before there is definite pathology.

In considering first, the estimation of the non-protein nitrogenous waste products of the blood, it is of importance to mention the methods used and the normal values obtained by these methods. In the interpretation of reports this is necessary since the normal values vary according to the technique employed. There are three main systems in use: Greenwall, Lewis-Benedict and Folin and Wu. In the pathological department the methods of Folin and Wu are used and the normal values are as follows:

Total non-protein nitrogen.....	25-30 mg. per 100 c.c.
Urea nitrogen	12-15 mg. per 100 c.c.
Uric acid	2- 3 mg. per 100 c.c.
Creatinine	1- 2 mg. per 100 c.c.
Creatine	3- 7 mg. per 100 c.c.
Amino acid nitrogen.....	6- 8 mg. per 100 c.c.
Ammonia nitrogen	0.1

These waste products are increased in many body impairments, such as nephritis, uremia, hypertension, prostatic obstruction, metallic poisoning, such as lead, and malignancy. The retention in the last named is due to the concurrent nephritis. The determination of the non-protein nitrogenous constituents is of value in the regulation of diet when the patient is in danger of a too restricted protein intake.

As the total non-protein nitrogen is increased, so of course are its respective constituent substances and usually in the following order: First, uric acid, since it is the hardest to excrete, then

urea, and lastly creatine, it being the easiest to eliminate. Creatinine is the most important of all the blood constituents to show retention, as it is not influenced by diet, and even when there may be a normal or low total non-protein nitrogen and urea, the creatinine may be high, indicating that the function of the kidney is impaired. It is the most satisfactory criterion as to deficiency of the excretory power of the kidney and the most reliable indication of the terminal course of the disease. However, too much importance should not be placed in the value of increased creatinine as to prognosis, because when there is a superimposed acute nephritis there will be a high creatinine due to the complete inefficiency of the kidney. When the acute condition clears up the creatinine may be found dropping back to normal. The limitations of this discussion make it impossible to dwell upon the important applications of these determinations, but it seems only fair to mention them.

The application to cases of nephritis is well known, but the results are too often misunderstood. The clinician, in submitting a blood specimen from a known nephritis, is embarrassed and nonplussed to receive a report of normal findings, losing sight of the fact that this procedure is not diagnostic but is designed to inform him whether or not that patient has left to him enough healthy parenchymatous tissue to rid his body of its waste products down to the basal figure.

In cases of pregnancy, when the patient is in coma or stuporous, a urea determination is of great value since a high figure would indicate uremia and a normal or low one, eclampsia. An increase in urea is found in prostatic and intestinal obstruction. The urologist has found it a very valuable pre-operative prognostic test in cases of prostatic obstruction, showing that urea nitrogen figures under 20 mg. per 100 c.c. of blood are regarded as good operative risks, figures between 25 to 30 should be operated on with great caution, giving a preliminary period of treatment. Figures over 30 mg. indicate renal involvement and therefore are poor operative risks.

The system of blood analysis includes the determination of carbohydrate metabolism and it is probably in this field that it renders its greatest service. For it is in the sugar determination that the treatment of the known diabetic can be regulated, the potential diabetic discovered and the differentiation of the renal

from true diabetes. The normal value, according to the Folin and Wu method, are 80 to 120 mg. per 100 c.c. or 0.08 per cent to 0.12 per cent. Much higher values than these for the normal are obtained by other methods. The delicacy of the Hanman curve is known throughout the medical field and accepted. Many investigators are using a similar technique in an attempt to differentiate carcinoma and ulcer of the gastro-intestinal tract. This is known as the Carbohydrate Tolerance Test and is also used in conditions of endocrine dyscrasias.

Metabolic determinations are being made in connection with the inorganic salts of the blood, particularly calcium, phosphorus, magnesium and sodium. The estimations of the salts are indicated in such conditions as rickets, osteomalacia, tetany, Paget's disease and endocrine disturbances.

One more laboratory aid must be touched upon before closing, namely, the determination of the CO₂ combining power of the plasma. Due to the exchange of gases brought about by the respiratory processes, the normal alkalinity of the blood is established and maintained by the so-called buffer substances of the blood. In disturbances of metabolism such as too restricted diet, wasting fevers, diseases of malnutrition, the normal alkalinity is diminished and a condition known as acidosis occurs. There are methods in urine analysis by which this condition can be detected but they are qualitative only. The degree of acidosis existing can only be determined by the CO₂ combining power of the blood plasma, the Van Slyke method being the most satisfactory. Therefore, this method is important in carrying out the Allen treatment in diabetes when the patient is in as much danger of starvation as from the disease. The administration of alkalis can also be regulated since long before the urine becomes alkaline serious damage may be done to the patient by large doses of alkalis. Before the administration of a general anesthetic it is a wise precaution, if acidosis is suspected, to ascertain the CO₂ combining power of the plasma since anesthesia tends to produce acidosis. If the patient is already suffering from a lessened alkalinity, sudden and unexplained death may occur. Any value below 35 volume per cent is not a good operative risk, the normal values ranging from 55 to 77 volume per cent. Anesthesia from chloroform and ether lowers the CO₂ combining power of the blood more than gas.

Time forbids an elaborate presentation of these and other valuable aids in diagnosis and prognosis, but suffice it to say that further researches in the field by biological chemistry hold for the physician promise of deeper knowledge into the life processes than that for which he now hopes.

DR. COURET felt that the necessity of fasting the patient for from 8 to 12 hours before making the tests enumerated by Dr. Maher has been too lightly considered by some. This has been insisted upon in this laboratory and Dr. Couret would continue to do so, unless he was given a good reason to do otherwise.

It is a well-known fact that all foods will temporarily increase the normal values of non-protein nitrogen, urea, uric acid, etc., and unless we are thoroughly familiar with the amount and character of each food taken by the patient preceding the tests, it is a difficult matter to determine whether the increase is transitory or permanent. If, however, all patients are treated alike, that is, fasted for an equal length of time, we can determine more accurately any disturbance out of the normal.

DR. SALATICH thought that the acidosis phase of the question was of practical interest to the surgeon. It would be reducing the operative dangers to know whether there was a lessened alkalinity. Such a condition could be responsible for some of our unexplained deaths—after operations. Since anesthesia tends to produce acidosis, a pre-operative alkaline treatment would seem an eminently wise precaution. He thought we would soon come to this as a routine practice.

PROCEEDINGS OF THE

TOURO INFIRMARY STAFF.

Monthly Meeting for May, 1922.

The President, Dr. C. Jeff Miller, in the Chair.

PNEUMOCOCCAL SEPTICEMIA.

DR. R. MATAS reported a death from pneumococcal septicemia, with multiple visceral and other infarcts associated with cervical adenectomy for metastatic carcinoma of the breast.

The patient, a woman 43 years of age, was first seen by Dr. Matas January 29th, 1920. She came at this time complaining of a lump in her right breast which had existed about six months,

the last two weeks of which time the mass had increased rapidly in size. A clinical diagnosis of carcinoma was made. On the morning of January 30th, a radical amputation of the breast was performed after the clinical diagnosis of malignancy had been confirmed by microscopical analysis. She had an uneventful recovery from the operation and left the institution February 19th, 1920.

On physical examination, the patient showed, in addition to the above mentioned condition, a slight secondary anemia which was attributed to an existing malarial infection—tertian plasmodia were found in the blood the day of admission.

On December 8th, 1921, approximately two years after operation, the patient returned very much worried, seeking advice regarding a massive glandular enlargement of the right side of her neck. She first noticed the beginning of this condition in June, 1921, one and one-half years after amputation of the breast. The growth was rather slow at first, but the last month before her visit here the mass increased rapidly in size. It was during this period that she began to have pain in her neck, shoulder and even into her arms.

She had chills and fever the entire summer, temperature almost every day, but no definite chill days. On numerous occasions her temperature would reach 104 to 105 degrees. She was treated by Dr. G. H. Wright, who administered quinine intravenously. She was also treated by Dr. Snelling. There was no apparent change in the febrile reaction following the quinine treatment. On arrival here she was still having temperature daily. The blood was examined very carefully on several different occasions but no malarial plasmodia were found.

The physical examination showed a well-developed and fairly well-nourished woman of a rather large structure but somewhat pale and anemic. Normal pupils and reflexes. Enlarged glands were palpable in the neck, on the right side of which was a firm, adherent, insensitive mass, the largest gland of which was about the size of a walnut with a few smaller ones around it. The glands of the left side of the neck were not palpable.

There were no palpable glands in either axilla nor was there any evidence of local recurrence in the mammary region. Inguinal glands were not enlarged.

The lungs showed fair expansion. Tactile and vocal fremitus was somewhat decreased throughout but particularly over the hilum of both lungs. Slight dullness was found over the lower portion of both lungs posteriorly. Radiographic examination of the chest showed glandular enlargement at the hilum of both lungs, marked opacity over the lower half of the left lung suggestive of pleural effusion or thickened pleura. There was no evidence of gross metastasis within the thorax. The heart was normal in size, there were no murmurs but slight irregularity, skipped a beat but not at regular intervals. The abdomen was negative.

It was evident that metastatic recurrence had taken place in the subclavian group of glands, and in all probability the mediastinal glands were involved. X-ray pictures did not show any distinct shadow in the chest, however, and the extirpation of the glands was advised. The operation was performed on the morning of December 9th, 1921. All vessels were secured carefully, thus allowing but little bleeding and there was but little shock associated with the surgical procedure.

PROGRESS.

About 28 hours after the operation, she showed the first reaction. The temperature rose to 103 degrees and with it the patient experienced a chilly feeling. The pulse at this time was also accelerated, registering 128, the patient perspiring profusely. The dressings were changed and found saturated with a pale serous-colored fluid. The temperature was controlled temporarily by sponges, alcohol rubs and small doses of aspirin by mouth. Quinine bisulphate gr. 10 in a half cup of flaxseed tea was ordered by rectum every four hours. The temperature and pulse from this time on remained very high, the wound being excluded as the cause of the reaction. The blood now showed a total leucocytic count of 10,000 with 93% neutrophiles. No malarial plasmodia were found.

On December 23rd the patient had a hard chill at 8:30 A. M. and the temperature went up to 104.2 by axilla; at this time 7½ grs. of quinine and urea hydrochloride were given intravenously. This was repeated again in one hour.

On December 24th throughout the night the temperature remained very high and did not drop below 104 degrees by axilla. She had a slight chill again in the afternoon.

The blood examination showed a total of 31,150 leucocytes, with 94% neutrophiles. Ten c.c. of Mulford's polyvalent anti-streptococcal serum was given, injected deep into the gluteal region at 11:15, and at 3 P. M. 20 c.c. were given in the same way. The patient complained most of the day with her left eye. On careful examination a *marked keratitis* was found to exist. In the afternoon another dose of quinine and urea hydrochloride, $7\frac{1}{2}$ grains, was given intravenously.

December 26th, the patient's general condition was much worse. On account of difficulty in nourishing the patient, a *Jutte tube* was passed through the nose and fluids administered freely. Rectal temperature was 104.2 degrees and uncontrollable by sponges or even the *Kemp irrigation*. The keratitis of the left eye was much more marked. The conjunctiva showed intense chemosis, suggestive of panophthalmitis. Dr. Blum was consulted at this time, as was Dr. Feingold the next day. Twenty c.c. of antistreptococcal serum were given intravenously at 2 A. M. and again at 12 M., making a total of 70 c.c. A total of $22\frac{1}{2}$ grains of quinine and urea hydrochloride had been given intravenously up to this time.

On December 28th, the patient could not be aroused. Several blisters containing at first clear serum and later, pus, appeared. There was one on the tip of the finger where puncture was made to obtain blood for examination, two smaller ones, spontaneous, in the palm of the left hand, and one on the inner surface of the right great toe. Smears taken from the palm blister were reported to contain pure chains of diplococci. The blood taken for culture was reported negative. The urine at this stage showed 1% moist albumen.

On December 29th, the patient remained in a profound stupor, general condition showed increasing exhaustion. All feeding done through tube. One new blister appeared on right thumb.

On December 30th, the patient was not expected to live through the night, but she struggled along somehow until 6 o'clock in the afternoon. The pulse for the last 24 hours was irregular, thready and weak—at times not palpable. The respiration was entirely mechanical, breathing shallow and later marked edema of lungs. At 2:15 the patient had convulsions, every muscle quivering. This lasted from 3 to 6 minutes, during which

time she became pulseless and thought dead. At 6 P. M. she had a similar attack from which she did not recover.

DR. LANFORD'S post mortem record was as follows:

Body: Is that of a well developed, well nourished white female that measures about 5' 4" in length and weighs about 150 pounds. There is a scar on the right thorax extending to the axilla following the removal of the breast several years ago. There is a recent scar in the right supra clavicular area extending from the external notch to the anterior border of the trapezius muscle. This wound is practically healed except at its two extremities which show some inflammatory reaction. Post mortem lividity and rigidity are absent as the autopsy was held one hour after death. The left eye is the seat of an active inflammatory reaction, causing a clouding of the cornea. There is an injection and thickening of the conjunctiva, also an exudate. A number of small blebs are noted in the fingers and toes confined largely to the superficial structures.

Peritoneal Cavity: On opening this cavity we passed through a layer of adipose tissue about 3 inches in thickness. The omentum is short and free, except in the splenic area, where it is adherent to the abdominal wall. The intestines are distended with gas. The cavity is free from fluid but on breaking up the adhesions in the splenic area reddish purulent material is noted and a pocket enclosing the spleen is found in the left hypochondrium which includes the left tip of the liver. The diaphragm extends to the third rib on the right side and fourth on the left. The bladder is distended with fluid.

Pleural Cavity: Left pleural cavity shows a few adhesions in the superior portion and some fluid. Right pleural cavity shows the presence of several hundred cc. of fluid containing a few flakes of fibrin. Glands in the hilum of the lung are enlarged and calcified but no evidence of secondary neoplasm is noted in the glands in this area.

Pericardial Cavity: Contains fat and about 100 cc. of thick yellowish exudate without much fibrin.

Heart: Is considerably enlarged and is dilated. Shows an inflammatory reaction which is particularly noticeable in posterior portion. There are no adhesions nor "bread and butter" appearance. The muscular wall is flabby and over the apex a small recent infarct is noted. Examination of the valves in situ shows an active acute vegetation process in the aortic valve.

Lungs: The apex of the left lung posteriorly shows a few adhesions. There is complete collapse of the lower lobe of the left lung, but no evidence of pneumonia is noted. The upper lobe is edematous.

Liver: Slightly increased in size and is of a yellowish appearance with areas of congestion. On sectioning, it presents a nutmeg appearance and shows evidence of fatty degeneration. The gall-bladder is negative.

Spleen: It is about twice its normal size and very irregular in outline presenting a number of nodules and several areas of liquefaction, which on sectioning proved to be infarcts in various stages of suppuration. The cut surface of the spleen shows a considerable amount of congestion and increased softening of the pulp and purulent infiltration.

Pancreas: Negative.

Adrenals: Negative.

Kidneys: Both kidneys are increased in size and show a number of recent infarcts. There is noted in the right kidney an old healed scar as a result of a former infarction.

Gastro-Intestinal Tract: A few isolated infarcts are noted in the small intestines.

Anatomical Diagnosis: General septicaemia. Acute aortitis (vegetative); lobular pneumonia; septic infarcts of the spleen; septic infarcts of the kidneys; localized peritonitis; acute pleuritis; oedema of the lungs; healed pulmonary tuberculosis; dilatation of the heart. Culture from the heart's blood shows the presence of diplococci occurring in chains. Smear and culture from the pericardial cavity shows a similar type of organisms.

CONCLUSIONS.

This observation was presented as an unusual example of *septic endocarditis* complicated by an immense number and variety of pyemic infarcts in the spleen, heart, lung, liver, eye (keratitis, panophthalmitis), skin (vesiculo-purulent bullae in toes, fingers, palms of hands), which appeared as a complication after a block adenectomy of the *right cervical* lymph nodes for metastatic carcinoma following an operation for carcinoma of the breast, performed about 18 months (1½ years) previously.

The endocarditis existed probably at the time of the first operation, when it was diagnosed as a chronic malarial infection and continued simulating malarial intermittent fever during the entire period that intervened between the first and the second operation (18 months); but it was apparently greatly aggravated and intensified by the second operation, which seemed to have rekindled the endocardial infection and thrown out a perfect shower of infarcts, which were carried by the *arterial stream* to every part of the body.

The diagnosis of septic endocarditis was obscured by (1) the reported presence of Plasmodia (Tertian type) in the blood at the time of the first operation; by (2) the intermittent and paroxysmal attacks of chills and fever for over two years including the period intervening between the first and second operation; (3) by the absence of distinct cardiac murmurs, except at the base (aortic) which were heard only during the last illness and were supposed to be hemic—as they were far from constant or well accentuated; (4) by the rather low leucocyte count, except in the last illness when the total white count jumped from 10,000 white and 93 Polys (Dec. 12, 1921) to 31,150 and 94 Polys on Dec. 24th, 1921; (5) by the remarkable absence of well defined signs pointing to the chief visceral

metastases (especially the spleen) until the very last hour before death; (6) by the fact that the first and most notable infarct in the eye (Keratitis) had apparently occurred at different times coincidently with the supposed chills and fever (as a malarial herpetic keratitis) the inflammation in the cornea and conjunctiva subsiding gradually with the disappearance of the fever. These eye manifestations had occurred alternately in both eyes at different times in the last 18 months since the first operation and had always disappeared.

The true septic and pyemic character of the infection was however made apparent after the keratitis was found to be an interstitial, purulent infection contributing only a part of a general panophthalmitis, and when the sero-sanguinolent bullæ appeared in the digits, palms and soles of the feet.

Apart from the difficulties in the diagnosis presented by this case, in its incipency, which were very unusual, and the questions that were suggested by this remarkable observation, were (1) what was the relation as cause and effect that existed between the trauma of the second operation and the extraordinary relighting and aggravation of the endocardial and general septicopyemic phenomena? (2) In view of the negative result of all the blood cultures taken in vivo and the late recognition of the pneumococcus in the smears of the blisters, what line of treatment could have been suggested apart from the Polyvalent antistreptococcal antitoxins or stock vaccines?

Presuming that this was a pneumococcal infection or that the pneumococcus became mixed with the original endocardial infection, what could we expect therapeutically in the presence of multiple infarcts from massive doses of Polyvalent pneumococcal antitoxins?

DR. LANFORD said that he could add nothing to his report as read except to comment on the fact that cases of septic endocarditis present very great difficulties in demonstrating the organism in the circulating blood, because these organisms are in such small numbers that we can rarely catch them when the "shower" is present in the circulating blood. These small groups of organisms usually find their way in the end vessels of the parenchymatous organs, particularly the spleen and kidney which more frequently show infarcts than do other organs of the body. The fact that we find occasionally small infarcts in the

digits and in the eye, show that very minute groups of bacteria are thrown off.

The picture of the suppurative foci in the digits and cornea of this case were characteristic of pneumococcic infection because this type of organism is associated with the formation of small blister-like foci more than that of other organisms and, for this reason we can recognize this type of infection from its clinical appearance whether it occurs around the finger nails or elsewhere.

In this case, the principal valve involved was the aortic, there being practically no extinction to the mitral valve which would tend to explain why no murmurs were heard in this heart. This fact would also explain the absence of symptoms of infarcts in the other organs of the body.

DR. LEMANN stated that ulcerations of the aortic valve in ulcerative endocarditis were much less common than those of the mitral. Just about the time that this case came under Dr. Matas' observation he saw a negro at Charity Hospital who was admitted with fever of unknown origin who gave a history of very short duration of illness, only some days or weeks, who had at the time of admission a temperature of 103 and 104 and a slightly enlarged spleen. Blood examination was negative. Widal negative. Physical examination beyond the enlargement of the spleen was negative; there were no heart murmurs. In the course of a week he had been examined by successive groups of students and it was the second or third group of students who called Dr. Lemann's attention to the wonderful capillary pulse in this man. He had been examined a number of times and no discovery of this kind had been made. There was now a loud systolic murmur. All of this developed in a few days. Death came within a week and at autopsy there was a tremendous ulceration of the aortic valve with perforation and vegetation appearing on the mitral side. This case was remarkable because of its acuteness. It was not possible until the appearance of the capillary pulse to make a diagnosis. The man had no metastasis and no infarcts. Dr. Lemann had never seen one appear so acutely nor attack the aortic valve as in this case and that of Dr. Matas. He saw other cases which simulated malaria, cases where the patients had apparently recovered from ulcerative endocarditis who had in previous years been

diagnosed as recurrent malarias. Some of these cases we must hesitate to regard as being cured for they tend to recur.

GOITRE.

DR. A. B. PITKIN exhibited a "type case" of thyroid disease that he had presented at the last meeting, through the courtesy of Dr. Stone. It was a distinct case of Graves' disease. The section of the gland was described by Dr. Lanford as one of the most toxic he had seen. In addition to the marked infolding which is characteristic several areas showed degeneration, which no doubt increased the toxicity; no colloid material was found. The first attempt at a metabolic measurement was a complete failure because of extreme fear and apprehension; the first satisfactory measurement was plus 110%, and subsequent measurements with patient ambulant were plus 95% and 96% respectively. After complete rest in the hospital the rate dropped to an average of plus 78%. As mentioned at the last meeting the question arose: "Is this patient a good operative risk?" The essential features noted during the period of observation extending over 5-6 weeks were as follows: Lowering of pulse rate from 140 to 80-85, gain in weight, 5 lbs.; able to rest at night; tremor markedly decreased, and from an apparent "jumping jack" because of incessant involuntary movements, he presented almost the opposite picture, he had quieted down so much. Thyroidectomy was performed by Dr. Stone a few days after the last meeting. The patient's convalescence was uneventful aside from a period of immediate marked postoperative thyrotoxicosis with elevation of temperature of 103 degrees and pulse 150, which lasted about 48 hours, with a gradual and steady decline to normal. Patient was discharged from the hospital four days ago and a metabolic measurement was made this morning. It was striking to note the patient lying perfectly quiet, like I had never seen him before, with a pulse of 52. The B. M. R. proved to be -11% which is quite a contrast to the original rate of plus 110%. No doubt this bradycardia is due to the fact that this previously overstimulated heart with a violent poison for a period of months is now having difficulty in adapting itself to the marked change of stimuli, even though it is perfectly regular.

Another patient was presented, a toxic adenoma, which was also shown at the last meeting. Her rate had been persistently

plus 40% and after rest in the hospital it lowered to plus 20% and then to a 0% variation. She made an uneventful recovery. The section shows many areas of adenoma throughout the gland, with deposits of colloid. A post-operative measurement has not been attempted.

Another case presented at the last meeting which was distinctly toxic clinically, with a rate of plus 40% lowered to plus 20% after rest, was also labeled toxic adenoma. Thyroidectomy was performed and the section showed the classical picture of a colloid goitre. This case represented the type of case in which there was a focus of infection which stimulated the thyroid to oversecretion; the latter appears in periods which alternate with periods of rest. During the "resting stage" colloid is deposited or accumulates. The final picture was that of a large colloid goitre associated with a distinct thyrotoxicosis.

NEWS AND COMMENT.

THE GORGAS MEMORIAL FUND. At the St. Louis Annual Session the Board of Trustees reported to the House of Delegates that in response to a request received from the directors of the Gorgas Memorial Institute of Tropical and Preventive Medicine for the co-operation of the American Medical Association, the Board had taken action which resulted in the appointment of a committee, representing the American Medical Association, to act on the project. The following were appointed: Dr. George E. de Schweinitz, Philadelphia; Dr. Charles W. Richardson, Washington, D. C., and Dr. Fred B. Lund, Boston.

The House of Delegates unqualifiedly endorsed the Gorgas Memorial as a tribute to a past President of the organization and one of its most distinguished and loved members. At its recent meeting the Executive Committee of the Board of Trustees received the following statement from the committee and directed its publication.

STATEMENT AND APPEAL FOR CO-OPERATION.

As a result of the stimulating suggestions of President Porras of Panama, it has been resolved that a fitting memorial shall mark the humanitarian service of the late Major General William C. Gorgas and the beneficent influence of his life and work on mankind throughout the world. Following the thought of President Porras, it has further been decided that this memorial shall take the form of a scientific institute for the study of tropical diseases and of preventive medicine.

No better place could have been selected than Panama City, the gateway between the Atlantic and the Pacific, where General Gorgas' well-planned and executed work made possible the building of the Panama Canal.

It is hardly necessary to call the attention of the medical profession to the far-reaching effects of General Gorgas' work on the welfare of the people of the whole world, especially in tropical and semi-tropical climates, and in all places subject to the inroads of infectious disease.

We of the medical profession remember him as our Surgeon General during the early part of the World War. We remember his prompt recognition of the necessity of bringing into active service large numbers of physicians and surgeons from

civilian life. We remember his genial and kindly nature, his high character, and his steadfast effort directed toward the organization and equipment of the Medical Corps of the Army. We remember the patriotic response. We remember him as a great sanitary officer, to whom we wish to pay a lasting tribute.

A central committee has been formed, with Admiral Braisted, retired, ex-President of the American Medical Association, as its president. The American Medical Association has appointed a committee of three to work in accord with the central committee, and through its members this appeal is made to the American medical profession.

The plan is to build at Panama an institute for the study of tropical and infectious diseases, with a hospital, laboratories, departments for research and all other facilities required in an institute of this character, erected and administered according to the most progressive, modern ideals. The Panamanian government, owing to the far-sighted, philanthropic vision of President Porras, has donated the great Santo Tomas Hospital, and also the ground on which it is proposed immediately to construct the buildings as they have been described. Dr. Strong has been appointed the scientific director.

In conjunction with this work in Panama, there will be established in Tuscaloosa, Ala., the Gorgas School of Sanitation for the purpose of training country health workers, sanitary engineers and public health nurses, especially educated to deal with the problems peculiar to the Southern states.

An endowment of six and one-half million dollars will be required to enable the institute to carry on the work according to the plans which have been formed.

The Republic of Panama has demonstrated its sympathetic and practical interest in this enterprise with splendid liberality. The physicians of our country, and especially the members of the American Medical Association, surely will not disregard the memory of a former President, and will seize the opportunity to make in this respect a contribution of which they will be proud.

The campaign for funds is to be international. A large response is expected from North, Central and South America, since the nations of these countries have been the chief beneficiaries of the labors of General Gorgas. It is fitting that his

co-workers of the American medical profession should be requested to respond generously to this appeal. It is hoped that every member of the American Medical Association will make as liberal a subscription as possible. Any sum will be gratefully received. Checks should be drawn to the order of the "Gorgas Fund" and should be mailed to the American Medical Association, 535 North Dearborn Street, Chicago.

CHARLES W. RICHARDSON, Washington, D. C.,
F. B. LUND, Boston.

G. E. DE SCHWEINITZ, Philadelphia.

EYE, EAR, NOSE AND THROAT HOSPITAL TO OPEN. The opening of the new building of the Eye, Ear, Nose and Throat Hospital is to take place on October 1st, 1922. This new building replaces the old structure in which many thousands of the citizens of New Orleans have received treatment and with all modern equipment and arrangement, the service to the community will be correspondingly increased. Dr. Charles Chas-saignac is the Superintendent.

SOUTH AMERICAN CRUISE. The American College of Surgeons is planning for a cruise starting from New York on February 10th, 1923, to the principal South American countries.

A NEW DEPARTMENT OF THE EYE, EAR, NOSE AND THROAT JOURNAL, OF CHICAGO. The above journal has recently established a new department devoted to an Abstract of the Proceedings of the Section of Ophthalmology and Oto-Laryngology of the Royal Society of Medicine of Great Britain, and Dr. Fayette C. Ewing, of Alexandria, has been secured to take charge.

Dr. Ewing is one of the Original Fellows and the only living Fellow of this Society in America, and for several years was Abstract Editor of *The Laryngoscope*.

ANNUAL ROLL CALL OF THE AMERICAN RED CROSS. The annual roll call of the American Red Cross, in which its membership is renewed from year to year, will take place in the period between Armistice Day, November 11th, and Thanksgiving Day. This is the only appeal that the National Organization makes during the year; and is for the purpose of maintaining its membership at such a point as will enable it to perform those duties which are placed upon it by Congress.

SIXTH DISTRICT MEDICAL SOCIETY MEETING. There will be a meeting of the Sixth District Medical Society, in Donaldsonville, on Wednesday, October 11th, 1922. A splendid scientific program has been arranged, moving pictures, etc., and it is hoped and anticipated that every member of the Sixth District Medical Society will be in Donaldsonville on the above date.

AT THE CHARITY HOSPITAL, NEW ORLEANS. Bids are being received for the installation of automatic sprinkler system in the new clinic addition. When this building is installed with a sprinkler system, the entire hospital will be protected from fire by this safety device.

Through the generosity of Mr. Sam Bonart, Charity Hospital has been allowed to order an incubator for premature babies.

Two additional lungmotors have been added to the ambulance equipment. At present the three ambulances are fitted with these life saving devices.

The Nurses' Training School, which is under the direction of Sister Kostka, is steadily growing. At the present time one hundred student nurses are enrolled, and twenty additional probationers are expected in the near future. Applicants, of whom there have been 175 since January, are accepted between the ages of eighteen and thirty-five, and must have at least first year high school education.

The School was opened in 1896, and since that time six hundred nurses have received diplomas. A very comprehensive course of training has been built up, and at present, the nurses are the only ones to be accepted by the New York Board of Regents from this State without examination. By the time a nurse has spent the three years necessary for graduation here, she has had training in every service in the hospital, including the Out-Patients' Clinic, the clinical laboratories, physiotherapy, anesthesia and public health nursing. The hospital also offers courses in post-graduate training.

CHATTANOOGA MEETING OF THE SOUTHERN MEDICAL ASSOCIATION. The Southern Medical Association will hold its Sixteenth Annual Meeting in its birth city, Chattanooga, Tenn., November 13th to 16th, 1922. Dr. Seale Harris, of Birmingham, Ala., is President.

This meeting will be made up of eighteen sections and joint meetings, and a most excellent program covering every phase of both medicine and surgery will be presented. Of unusual interest will be the joint dinner session of the Section on Surgery and the Section on Radiology, Tuesday night, at which time Dr. Geo. W. Crile, of Cleveland, Ohio, and Dr. Geo. W. Holmes of Boston, Mass., will make addresses. All physicians and surgeons are cordially invited to this session.

Entertainments include a president's reception, with dance, on Tuesday night, and a dance and "get together meeting" on Wednesday night. On Tuesday and Wednesday elaborate entertainments have been provided for the wives of visiting physicians. Those who are inclined to golf will be accommodated as a number of tournaments are being arranged.

Chattanooga excels in beautiful scenery and in points of historic interest, among these being Fort Oglethorpe which so many former Service men will visit with varying emotions.

The members of the Association will receive, without applying for them, certificates entitling them to reduced railroad rates. Any doctor, who is a member of his State and County Medical Society, although not a member of the Southern Medical Association, who desires to attend this meeting, can have the benefit of these reduced rates by requesting a certificate from the Association office.

CIVIL SERVICE EXAMINATION. The United States Civil Service Commission announces an open competitive examination for research assistant in Child Hygiene. Vacancies in the Children's Bureau, Department of Labor, at \$1,600 to \$2,000 per year will be filled from this examination.

All citizens of the United States may enter this examination if application is accepted. The principal duty is to assist in conduct of research work in the field of child hygiene. Applications should be addressed to the Civil Service Commission, Washington, D. C., or to the Secretary of the United States Civil Service Board, Custom House, New Orleans, for Form 2118. Receipt of applications to close October 10th, 1922.

REMOVALS: Dr. J. M. White, from Gueydan to Lake Charles.

Dr. J. E. Hawkins, from Bayou Chicot, La., to DeWitt, Arkansas.

BOOK REVIEWS AND NOTICES.

All new publications sent to the JOURNAL will be appreciated and will invariably be promptly acknowledged under the heading of "Publications Received." While it will be the aim of the JOURNAL to review as many of the works accepted as possible, the editors will be guided by the space available and the merit of respective publications. The acceptance of a book implies no obligation to review.

Mind and Its Disorders, by W. H. B. Stoddart, M. D., F. R. C. P., fourth edition. P. Blakiston's Son & Co., 1922.

The fourth edition of this splendid work will be welcomed by the medical profession because of its clarity, brevity and the simplicity of the presentation of this most complex branch. The book is exceedingly readable, which is alone a high recommendation, besides the accuracy which former editions have proved beyond question, and to which the present edition is no exception. The book is highly colored by the teachings of Freud, whose work the author seems to accept without question. The growing criticism of the Freudian theory would leave this work open to considerable criticism in certain quarters.

C. J.

Rational Treatment of Pulmonary Tuberculosis, by Chas. Sabourin, M. D. Authorized English translation from the sixth revised and enlarged French edition. F. A. Davis Co., 1921.

It is interesting to find that the highest authorities in the French School agree closely with the American and English schools in their methods of treating Pulmonary Tuberculosis. It has been widely believed in the English speaking world that the French profession depended largely on the use of drugs in their fight against the great white plague. Anyone who reads Dr. Sabourin's book will disabuse his mind of this idea and will see that the same measures are in use by scientists in France as well as in this country. Exception might be taken to the fact that the author does not believe that the victim of Pulmonary Tuberculosis should be exposed to the direct rays of the sun, but recommends only that he should be able to see the sunlight but should be scrupulously guarded from exposure to the direct rays. A careful study of this translation will thoroughly repay anyone interested in the treatment of Pulmonary Tuberculosis.

C. J.

Greek Medicine in Rome, by Sir T. Clifford Allbut, K. C. B. McMillan & Co., 1921.

By writing this book, the distinguished author, already recognized as pre-eminent in the fields of teaching and practice of medicine, proves himself also a great medical historian, and the vast amount of study and research undertaken in the preparation of this great history is staggering. One cannot fail to have his appreciation of the vastness and antiquity of the profession of medicine brought strongly to mind by even the superficial scanning of such a book. All of those interested in the history of medicine will welcome Dr. Allbut's book, and will have many pleasant hours to look forward to in reading a splendid work.

C. J.

PUBLICATIONS RECEIVED.

P. BLAKISTON'S SON & CO., Philadelphia.

The Diagnostics and Treatment of Tropical Diseases, by E. R. Stitt, A. B., Ph. G., M. D., Sc. D., LL. D., 4th Edition, revised.

Hughes' Practice of Medicine, by R. J. E. Scott, M. A., B. C. L., M. D., 12th edition.

C. V. MOSBY COMPANY, St. Louis.

Principles and Practice of X-Ray Technic for Diagnosis, by John A. Metzger, M. D.

Diseases of the Skin, by Henry H. Hazen, A. B., M. D., 2nd edition.

W. B. SAUNDERS COMPANY, Philadelphia and London.

Obstetrics for Nurses, by Joseph B. DeLee, A. M., M. D., 6th edition, entirely reset.

THE YEAR BOOK PUBLISHERS, Chicago.

The Practical Medicine Series, Volume 1, General Medicine, Series of 1922. Under the general editorial charge of Charles L. Mix, A. M., M. D.

WASHINGTON GOV'T. PRINTING OFFICE, Washington.

Mortality Statistics, 1920.

United States Naval Medical Bulletin, Vol. 17, No. 2, August, 1922.

Public Health Reports, Vol. 37, Nos. 31, 32, 33, 34, 35.

Public Health Bulletins, No. 121, **Rodent Infestation and Rat-Proofing Conditions in Massachusetts Seacoast Cities, New York City and Baltimore.** No. 122, **Public Health Administration in Arizona.**

MISCELLANEOUS.

Transactions of the American Pediatric Society, Vol. 34, 1922.

Contributions to Surgical Technique, by Dr. F. P. Canac-Marquis.

Paralysie Flasque du Membre Supérieur, Extrait du XXVI Congrès Français de Chirurgie, par le Docteur Louis Mencièrre, de Rheims.

Address of Prof. Geo. Soulé, LL. D., president Soulé College, 66th Commencement Exercises.

REPRINTS.

Public Health Reports, Nos. 728, 732, 746; **Die Immunitätserscheinungen bei den Tropischen Spirochaetenkrankheiten**, by Prof. Dr. W. H. Hoffman; **Laboratorio de Investigaciones y Estudios**, by Prof. Dr. W. H. Hoffman.

MORTUARY REPORT OF NEW ORLEANS.

Computed from the Monthly Report of the Board of Health of the City of New Orleans, for August, 1922.

CAUSE	White	Colored	Total
Typhoid Fever	4	3	7
Intermittent Fever (Malarial Cachexia)	2		2
Smallpox			
Measles			
Scarlet Fever			
Whooping Cough	2		2
Diphtheria and Croup	3		3
Influenza	1		1
Cholera Nostras			
Pyemia and Septicemia		5	5
Tuberculosis	25	30	55
Cancer	27	14	41
Rheumatism and Gout			
Diabetes	7	3	10
Alcoholism			
Encephalitis and Meningitis	2	1	3
Locomotor Ataxia			
Congestion, Hemorrhage and Softening of Brain	26	14	40
Paralysis	1		1
Convulsions of Infancy			
Other Diseases of Infancy			
Tetanus	3	1	4
Other Nervous Diseases		1	1
Heart Diseases	48	46	94
Bronchitis	3	1	4
Pneumonia and Broncho-Pneumonia	21	15	36
Other Respiratory Diseases		1	1
Ulcer of Stomach	2		2
Other Diseases of the Stomach		3	3
Diarrhea, Dysentery and Enteritis	5	5	10
Hernia, Intestinal Obstruction	4	2	6
Cirrhosis of Liver	3	3	6
Other Diseases of the Liver	6		6
Simple Peritonitis	1		1
Appendicitis	7	3	10
Bright's Disease	27	12	39
Other Genito-Urinary Diseases	4	2	6
Puerperal Diseases	7	4	11
Senile Debility			
Suicide	1		1
Injuries	25	16	41
All Other Causes	39	24	63
Total	306	209	515

Still-born children—White, 29; colored, 21; total, 50.

Population of City (estimated)—White, 295,000; colored, 110,000; total, 405,000.

Death rate per 1000 per annum for month—White, 12.45; colored, 22.28; total, 15.27. Non-residents excluded, 13.17.

METEOROLOGIC SUMMARY (U. S. Weather Bureau).

Mean atmospheric pressure 29.97
 Mean temperature 83.
 Total precipitation 5.71 inches

Prevailing direction of wind, west.

NEW ORLEANS MEDICAL AND SURGICAL JOURNAL

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NOVEMBER, 1922

No. 5

ORIGINAL ARTICLES.

(No paper published or to be published in any other medical journal will be accepted for this department. All papers must be in the hands of the Editors on the tenth day of the month preceding that in which they are expected to appear. Reprints may be had at reasonable rates if a WRITTEN order for the same accompany the paper.)

ABDOMINAL TRAUMA.*

By R. O. SIMMONS, M.D., F.A.C.S., Alexandria, Louisiana.

The subject which I have chosen is one which most of us, as surgeons or general practitioners, must frequently consider and one which most often gives us great concern.

The thought which prompted me to prepare a paper on this subject is due to the alarming increase in number of such injuries, brought about by the advent of the high powered automobiles, motor trucks and those agents of death known as the whirlwind circular saw and the log skidder.

Abdominal trauma or injuries of the abdomen and its viscera resulting from external violence are of such frequent occurrence that I feel that a few minutes consideration of all the underlying and important features would not be amiss at this particular time, especially when we have so many general practitioners present, for, after all, the general practitioner is the first to be called in such cases and upon him is placed the re-

*Read before the Louisiana State Medical Society Meeting, April 11-13, 1922.

sponsibility of deciding, and deciding quickly, as to the proper step to take.

Penetrating wounds of the abdomen usually point to a comparatively easy diagnosis, but non-penetrating wounds of the abdominal viscera are very perplexing and time being a prime factor, it behooves all of us to be on the lookout for the unexpected, remembering that the mortality in these cases is very high at best.

On being called to see such cases we must consider carefully the history of the injury and recall something of the physics governing such injuries. One should consider whether, as Deaver classifies them, they are compressive, percussive or concussive. Compressive or crushing violence may cause the tear or rupture of both solid and hollow viscera; compression applied over the abdomen in a progressive manner, such as being rolled between two objects in a narrow space or being run over by an automobile or truck may not only rupture the stomach, liver or spleen, but the intestines may be ruptured or torn from the mesenteric attachment and their blood supply cut off.

If the abdominal muscles are rigid and contracted in anticipation of a blow, as in athletic sports, the viscera are less likely to suffer, than if the blow is unexpected and the viscera unprotected by the board-like abdominal muscles. If a viscus is enlarged from any cause whatever, physiological or pathological, the liability of injury is greatly increased. If the stomach, intestines or the urinary bladder are full the chance of injury to these viscera is increased. Extreme muscular contraction or activity may cause visceral injury. An indirect blow on any part of the body, where the force can be directly or indirectly transmitted may cause abdominal visceral injury.

Another fact which must be remembered is that severe visceral damage may follow an apparently trivial accident or vice versa; and, for this reason any symptom referable to an abdominal blow should be given due weight, for I repeat, insignificant blows often result in serious late symptoms,—too late for an early diagnosis, and a delayed diagnosis nearly always means a fatal termination.

In considering the viscera likely to be injured we wish to include those lying in the abdominal cavity proper. The urin-

ary bladder, especially when distended, is a very frequent victim. The mesentery, the great blood vessels, the gall bladder and pancreas with their ducts are occasionally though not commonly injured; but we would give more consideration to the greater organs underlying the abdominal wall,—the liver, spleen, stomach and intestines with their attachments, and the kidneys.

How are we to recognize such injuries and how are we to handle them? The early symptoms are the important ones for the later manifestations, coming on when the patient is beyond relief, are so readily appreciated that they need scant consideration. Unfortunately the signs and symptoms are not always constant; they do not always appear early and often bear no direct relation to the severity of the injury.

(a) Of the symptoms seen *pain* is the most constant and most dependable, for it influences the patient to consult his physician for relief. Unfortunately it is not always long lasting and does not always appear immediately after the injury is received. It is not like the pain of an inflammation, but more like that pain which accompanies a ruptured extra-uterine pregnancy,—as if something had torn or suddenly given way.

(b) Associated with pain there may be elicited either local or general *tenderness* with which is always allied *rigidity* in varying degrees ranging from a local tenderness to a board-like stiffness of the muscles. Reiddel asserts, “the most important sign of abdominal injury is rigidity of the abdominal muscles and this follows immediately when the abdominal cavity becomes soiled with stomach and intestinal contents or blood.”

While having these two points in mind, I wish to stress another point in diagnosis. Do not administer an opiate with the view of giving your patient immediate comfort, before a diagnosis has been made, for such measures will abolish pain and to a considerable extent cause the rigidity of the abdominal muscles to disappear, thus depriving you of one of two valuable signs for an early diagnosis.

(c) Nausea and vomiting are usually early symptoms, and if they persist they are indicative of a serious traumatic lesion. Vomiting of blood usually indicates injury to the stomach or duodenum, though its absence does not exclude injury to these viscera.

(d) *Diminished or absent peristalsis* is one of the important signs, though often overlooked, according to Sherk, who "would place more dependence on it than any other symptom."

(e) This group of symptoms, including a facial expression of anxiety, thirst, accelerated pulse and respiration, with slight or exaggerated signs of shock and hemorrhage complete the picture according to the severity and extent of the injury.

I wish to present two case histories which will illustrate the points in diagnosis and treatment.

Case 1. J. G., male, white, age 9, while crossing the street, was run down by a touring car weighing 2700 pounds, the wheels of which passed across his body. He was carried to the local hospital, where I saw him a few minutes later. His face was pale and he had an expression of anxiety; pulse and respiration accelerated; complained of thirst and general abdominal pain; slight nausea but no vomiting; urine free from blood; abdominal walls rigid but not distended. The only external sign of injury was a slight abrasion of the skin over the right anterior superior spine of the ilium. Decided to make an exploratory laparotomy. Incision made in the midline below the umbilicus. Abdominal cavity found filled with blood, but no injury to the viscera of the lower abdomen. Incision extended upward to left of umbilicus. Spleen found macerated and partially detached. There was also a laceration of the posterior perietal peritoneum, **near the spleen**, about two inches long. Splenectomy done, followed by suture of the torn peritoneum. After saline infusion patient returned to bed showing signs of shock and hemorrhage. Uneventful recovery.

This case merely illustrates that severe visceral injuries may occur with slight signs of violence. Delayed operation with hemorrhage as active as it was in this case would have lessened the chances of recovery and probably resulted fatally.

Case 2. A. D., male, white, age 9, while playing, was kicked in abdomen by brother, age 5. He suffered slight pain and some nausea, but after a short interval was up and playing, as if nothing had happened. He went to bed that night as usual not complaining, and the next morning ate some breakfast and attended school. That night he did not feel well and the following day his parents decided not to let him attend school, giving him a laxative, as his bowels had not moved for two days. As usual, he ate a light supper and went to bed. The next morning he did not appear at breakfast, and on inquiry he was found in bed complaining of abdominal pain near the umbilicus. He had had some cramps all that day and suffered some all that night, and on the next day—the fourth day—the family physician was called and immediately recognized a serious abdominal case needing surgical interference. He was sent to the local hospital. After securing an indefinite history and recognizing unmistakable signs of peritonitis, we decided, as a last resort, to operate, though only after giving an unfavorable prognosis, hoping to find a ruptured appendix or something to justify an operation. We made the incision in the midline and by chance directly over the lesion, locating immediately a rupture of the peritoneal coat of the ilium about one-sixth of an inch in diameter, triangular in shape

and extending into the musculature to about the size of the point of a lead pencil. There was a small amount of ugly looking fluid and adhesions about the small intestines. Fluid mopped out and intestinal rent sutured with silk; rubber drain introduced and abdomen closed. Patient put to bed and death followed fifth day after injury.

This case will show the attention these cases deserve and how delayed symptoms and late diagnosis tends to increase the number of fatal terminations. The apparently trivial injury produced few symptoms, but a serious lesion, which was not markedly manifest until symptoms of peritonitis set in.

A certain diagnosis in these cases is extremely difficult and at times impossible, but by careful consideration of the history of the injury and close scrutiny of all signs and symptoms we can usually arrive at a diagnosis before it is too late. In definite cases of injury to the abdominal viscera there is but one indication,—open the abdomen. It is better to have opened an abdomen and found all well than to wait and deprive your patient of all chances of life. I agree with Goodrich, who urges an immediate aseptic abdominal section in every doubtful case of abdominal injury.

SUMMARY.

The increasing cases of abdominal injury resulting from automobile traffic and other causes brings about a situation demanding closer study of these cases.

An early diagnosis in these cases is imperative and the responsibility rests upon the general practitioner.

Each case demands close study not only as to signs and symptoms but careful attention to the history of the accident.

The only safe policy is to do an exploratory laparotomy in all borderline cases, and in all cases which present serious symptoms or develop such symptoms at any reasonable time following an injury to the abdomen.

DISCUSSION.

Dr. E. D. Martin (New Orleans): I do not believe any more important paper will be read in this meeting. Much he says is true, and I do not know of any class of trauma that is more difficult to diagnose. Of course, it is easy enough to say you have an abdominal injury, but the diagnosis is one of the most difficult I know. You may have no symptoms in the beginning. You have a slight injury, amounting to nothing, but in two or three days the pathological condition is such that it is beyond hope of cure. Externally, you rarely have signs of injury. I saw a patient, a driver, who had a heavy truck with iron tires run over his abdomen. He was sent to the Charity Hospital in New Orleans, and the only external evidence was a slight mark below the umbilicus. But he died in five minutes, and the autopsy showed that the aorta was cut in two. The external

symptoms may not manifest themselves for two or three days afterwards. Of course, we know that the liver and bladder and kidneys are more apt to rupture, but the injuries are not always so serious as that. We may have injuries to the intestines also. The history is a hard question—how did it occur and what is the cause, and how much injury could such trauma produce at the time? All these factors have to be taken into consideration. The pulse is sometimes an indication, but not always. You may have a rapid pulse from shock or from fear. I have seen persons after an automobile accident who had a pulse of 140, even though they were not injured, so you see the psychic element enters largely into these conditions. However, if it continues then you are dealing with a more or less serious condition. I agree that in case of doubt an exploratory laparotomy is justified. Your patient should be kept under observation and if things do not improve do not hesitate to go in. I want to emphasize the fact that these cases should be treated as serious conditions and one is less liable to make a mistake.

Dr. R. O. Simmons (closing): I simply want to emphasize to the general practitioner the necessity of watching these patients very closely whether at the time of the injury you consider it serious or not. It is well to keep them under close observation for at least twenty-four to forty-eight hours. I want to thank Dr. Martin for his discussion and you gentlemen for listening to me.

BLOOD PRESSURE OBSERVATIONS IN PSORIASIS, LICHEN PLANUS AND ERYTHEMATOUS LUPUS.*

By J. N. ROUSSEL, M.D.

From a review of the literature, especially the text-books, it would appear that the blood-pressure has not, up to this time, impressed the "skin-man" with possessing any value in the diagnosis and treatment of any skin disease, if we are to judge by the absolute lack of reference to the subject.

That it may not be generally of value in skin diseases I am quite willing to admit, but I am strongly of opinion, that in at least a few, it is of distinct value especially in directing the treatment and I believe that some day in the not far distant future, it will be considered of some diagnostic import in a few diseases about which we know little at present.

For the past few years, I have been observing the blood-pressure in all of my patients who were victims of diseases not distinctly parasitic such as Lichen Planus, Psoriasis and Erythematous Lupus and I was most astonished to find that in the three diseases mentioned there was almost a constant low pressure which seemed to drop as the disease progressed. In those cases in which the blood-pressure was not extremely low, it was always very much lower than we would suspect.

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In Lichen Planus the blood-pressure appears to be low from the beginning, but in Psoriasis and Lupus Erythematosus the pressure was generally lower in the old cases than in the early ones, mostly ranging in the old cases between 85 and 95 millimeters.

In an apparently strong and healthy individual this certainly appears queer to me, and to say the least, unexpected.

Why this should be so, I am at a loss to divine, but, that it is so, I am quite certain, at least in those who have come to me.

That it has any bearing on the cause of these diseases I am not at all certain, but I have a strong suspicion, born of the results of the treatment of these conditions, that the low blood-pressure is at least somewhat indicative of the direction from whence the wind blows, so to speak.

Whether these diseases are caused by specific agents which in turn depress the blood-pressure, or whether they are merely the outward manifestations of a derangement of the blood-pressure raising apparatus (endocrinous or otherwise) is the question to be decided.

If the diseases in question are caused by specific agents depressing the blood-pressure it would seem the part of wisdom to exert our efforts in the direction of eliminating them, whatever they are, and doing our utmost to keep the patient free of the diabolic stuff, but, on the other hand, if the diseases are caused by a derangement of the blood-pressure raising mechanism, from whatever cause, our efforts should be directed towards establishing the "locus minoris resistentiae" and doing that which lies within the realm of possibilities in the way of correcting the defective mechanism.

That they might be caused by either or both is quite within reason, but from my limited experience I am inclined to the belief that these diseases are directly dependent for their existence upon a derangement of the blood-pressure raising apparatus which could have its origin from almost any source, physical or chemical.

I believe this accounts for the various and sundry ways in which these diseases have appeared to originate. Some will begin after a severe illness; some after a great nervous shock, and others after some injury; all or any of which might in turn

disarrange the blood-pressure raising apparatus, which derangement might reasonably be more or less permanent, as it appears to be in the case of Psoriasis and Lupus Erythematosus.

I have in several cases of Psoriasis of many years standing seen the eruption entirely disappear by simply raising the blood-pressure from 85 to 120, only to see it reappear when the blood-pressure dropped, which invariably occurred upon continuing the medication, which was pituitrin.

This agent seems to raise the blood-pressure quite satisfactorily for a few days, but it will not stay "put" so to speak, which means that the attack is being made in the wrong direction, very likely.

This does not seem to hold true for Lichen Planus. In this disease, Pituitrin has acted like magic in four very severe cases. The blood-pressure went up under its use, stayed up, and the eruption entirely vanished in less than ten days, which to my mind is remarkable for Lichen Planus. The eruption has not recurred in either of the cases. Two of them were treated two years ago, and to my certain knowledge have had no recurrence.

I have made no observations along this line with Lupus Erythematosus, except to establish the fact, that all of the cases which have come to me in the past three years have had an extremely low blood-pressure.

DISCUSSION.

Dr. J. M. King (Nashville, Tenn.): There have really been no experiments made upon this subject as far as we know. This is entirely new to me. As to the blood pressure in psoriasis and lichen planus, it is just the opposite of what we would expect, as Dr. Roussel has stated. All these years we have been endeavoring to find the parasite of psoriasis and lichen planus, but we have come to believe that they are caused by certain physiological disturbances brought on either by long nerve strain or sudden shock, or faulty metabolism. But it is a question that will have to be studied more and carried under observation longer before we work out something with reference to the blood pressure.

I am rather surprised to learn that pituitrin relieved the doctor's patient. About the only influence it could have would be to raise the blood pressure, or it may be that the introduction of pituitrin brought about some other change than the blood pressure that enabled the patient to recover. These are things we do not know as yet.

Dr. J. N. Roussel (closing): I have nothing more to say except I have brought this matter up because I wanted to start something. I do not know anything about lichen planus or psoriasis, but I thought there might be someone here who did, and I believe that in a disease of that type, a disease we know nothing about, even if we are not able to accomplish anything wonderful it is about time for us to start something, and possibly get something out of it.

NON-OPERATIVE TREATMENT OF URETHRAL STRICTURE.*

By H. W. E. WALTHER, M.D., F.A.C.S., New Orleans.

Urethral stricture rarely receives the attention it deserves. Only too few articles appear in our medical literature dealing with this important subject. That stricture of the urethra is met with less frequently than formerly is unquestionably a blessing to all concerned. Yet even today we see cases in which the severity of symptoms presented, along with the usual unsatisfactory experiences the patient passes through seeking relief, surely offers sufficient argument for presenting the matter before this society.

Unless urethral stricture be of congenital origin (which type is in the minority), its etiology is either traumatic or inflammatory. The condition is usually met with in patients whose urethræ have met with trauma while an inflammation in the canal was in progress. The result of such trauma is a cicatrization of the periurethral exudates which form scars in the urethral wall. These scars have a tendency to contract, diminishing the lumen of the urethra, and finally producing the condition known as stricture.

The common site of stricture within the urethra is at the bulbo-membranous juncture (70 per cent.); 15 per cent. are met with in the first three inches of the anterior urethra; and, 15 per cent. are encountered within the terminal two inches of the canal.

Stricture of the urethra is an incurable condition. Upon this point urological authorities everywhere agree. No intra-urethral operative procedure for the cure of the condition has ever stood the test of time. To the contrary, it can be shown that hundreds of sufferers have been made worse, and in some instances, irreparably mutilated by such operative interference. The urethrotome should be relegated to that limbo to which all instruments of the barbarous age have been consigned. Cutting a stricture in the urethra adds insult to injury. Each cut adds more scar tissue, as well as more trouble for the next physician who is called to treat the case.

It is therefore to the non-operative methods of treatment that we must devote our energies in order to relieve those

*Read before the Louisiana State Medical Society Meeting, April 11-13, 1922.

suffering from this malady. Before taking up the different methods employed in urethral treatment by means of graduated instruments, a few brief remarks pertinent to the subject of stricture should not be amiss. Further, mention of the means by which we arrive at a correct diagnosis should be succinctly stated.

In order to be successful in the treatment of these cases certain facts must be impressed upon each patient. He must be informed of the fact that he has an incurable condition; that he will require urethral dilatations—at regular intervals—for the rest of his life; that if he obeys the advice of his physician he can live his normal span of years in comfort and contentment.

A case of neglected urethral stricture is not to be measured by the size of the urinary stream alone. For back pressure exerted upon those urinary organs above the strictured point, if allowed to go on indefinitely, will cause complications which will markedly shorten the life of the individual. We refer particularly to serious disease of the bladder, ureters and kidneys, although the epididymes, seminal vesicles and prostate not infrequently also succumb to the bacterial invasion while struggling under the handicap.

The diagnosis of urethral stricture is not always easy. Several other conditions may prevent a patient from emptying his bladder. In like manner, factors apart from intrinsic narrowing of the urethral lumen may impede the passage of instruments into the bladder. Of the former conditions we must bear in mind not only hypertrophy or inflammation of the prostate gland, but also vesical stone, paresis of the detrusors, and congenital valve formations at the internal vesical sphincter or just within the posterior urethra. Of the latter conditions one must bear in mind the possibility of dealing with a urethral spasm, with false passages previously produced by rough instrumentation of the canal, with congenital malformations, with impacted urinary stones, or with tumor obstruction—either within the urethra or exerting pressure on the lumen from without. Time will not permit our taking up the differential diagnosis of these various conditions. We will content ourselves with describing the means most practical for

passing instruments into the bladder where apparent urethral stricture exists.

The prime requisite in all urethral manipulation is gentleness. Asepsis should always be scrupulously observed. Local anesthesia had best be employed in dealing with elderly patients and those of a nervous or excitable temperament. The urethral dilatation is accomplished by means of filiforms, bougies and sounds. As urethral shock is to be avoided, it is far better, as routine, to combine gentleness, asepsis and local anesthesia, rather than be the cause of some untoward symptoms in a patient that appeared before to be in "smiling health."

The silk or metal olivary bougie or bougie à boule is of distinct value in diagnosing urethral stricture. Because they are less traumatising, silk instruments are ever to be preferred over steel instruments. The largest bougie the meatus will admit is passed until it meets an obstruction; then a smaller bougie is passed through the first constriction, down to one through which it, in turn, will not pass. In this way the location and caliber of each stricture band can be ascertained. Then too, by means of the olivary or acorn tipped instrument, upon attempting to withdraw such an instrument through a true stricture, a characteristic "hang" will be noted, when tip attempts to pass through the strictured band. This procedure definitely determines true stricture from spasm or other non-stricture obstruction. Where one meets with an abnormally small urethral meatus, meatotomy must be done before instrumentation can be contemplated.

Having determined the character and size of the stricture, one now proceeds to dilate, with either silk bougies or with steel sounds, beginning with a sized instrument commensurate with the smallest stricture band elicited. Whereas steel instruments are still much in vogue, they are being abandoned gradually for those constructed of silk because of the fact that the latter are so much less traumatising. The plan of instrumentation is usually as follows: Where the patient can void and where there is no need to hurry the case, the physician is usually satisfied with passing three bougies at one sitting. If, for example, the smallest bougie possible at the start is 12F., one would employ sizes 12 F., 14 F., and 16 F., at the first sitting. (It is necessary to have a set of instruments with the

even numbered sizes only.) Intervals between treatment are best gauged by the results obtained at each seance, but for general purposes dilatations had best not be given oftener than every five to seven days. The second dilatation begins where the physician left off before, in this instance, 16 F. And this time the patient's urethra is dilatated with instruments 16 F., 18 F., 20 F., and 22 F. This plan is continued until the urethra has been dilated to 28 F. It is not necessary to dilate over this size.

Periods of rest between visits to the physician will depend largely upon the resiliency of the stricture or strictures in the individual case. At first it is best to have him report back once every three months, then at six month intervals, and finally, if all goes well, he need present himself only once a year.

So-called impassable urethral stricture must be dealt with differently. Here the filiforms are of great value. Silk woven urethral filiforms taper to a very fine olivary tip and will pass through many tight strictures if properly manipulated. The modern method of employing filiforms in these cases is by combining them with followers, either in the form of steel sounds or silk bougies, the two instruments being joined by a screw-thread connection. The two types best known are the Le Fort and the Phillips outfits. The former has the steel follower while the latter has one of silk. The Phillips outfit is the one to use because it is least traumatising.

After preliminary asepsis and anesthesia, the urethra is filled with a water-soluble lubricant, such as K-Y Jelly, and the filiform gently introduced into the urethra. Should it catch at any point, it is withdrawn a little, rotated in a cork-screw fashion and re-introduced. If after repeated trials it appears to enter a false passage each time, it is left there, and another filiform is introduced alongside of it. This one might enter a false pocket too. But finally, if one persists long enough, the filiform will engage the stricture and pass through it. A silk bougie follower (about 12 F. to begin with) is screwed on to the filiform and after feeling assured that the connection between the two instruments is perfectly secure, the bougie follows the filiform through the stricture into the bladder. The filiforms readily curl up in the bladder and cause no damage. In this fashion larger bougies can be at-

tached, the plan as to sizes and number of instruments at a sitting is the same as before stated where the bougies are employed without filiform guides.

Finally, it must be stated that although all strictures of the urethra cannot be relieved by the non-operative methods I have here outlined, it is my firm belief that fully 90 per cent. of cases can be handled in this fashion. The worst types that one will occasionally meet with will, now and then, require surgical intervention. But, as already pointed out, internal urethrotomy should never be done. External urethrotomy will serve in some cases. The most satisfactory method undoubtedly is the one in which the surgeon does a suprapubic cystotomy and then performs retrograde urethral dilatation.

CONCLUSIONS.

1. Stricture of the urethra is an incurable condition.
2. Intraurethral operative procedures are un-surgical as well as mutilating. The urethrotome has no place in any surgeon's armamentarium.
3. Gradual or fractional dilatation of urethral stricture, by means of filiforms, bougies and sounds, repeated at intervals as indicated, is the rational method of treatment.
4. External urethrotomy or suprapubic cystotomy with retrograde dilatation is reserved for the severe type of cases which, fortunately, is in the vast minority.

DISCUSSION.

Dr. Paul J. Gelpi (New Orleans): I agree with Dr. Walther that undoubtedly the ideal method of treating stricture is by so-called dilation. I say so-called dilation because when we consider the pathology of stricture and the purpose for which we use a sound, absorption of the fibrous mass, the treatment is really one of pressure. To obtain the best result the sound should be allowed to remain as long a time as compatible with the patient's and the doctor's own time. Most strictures respond to this treatment. However, I cannot agree with Dr. Walther regarding the use of the urethrotome. Whereas the urethrotomy is not my treatment of choice, my long experience has taught me that it is the best method to deal with elastic strictures that do not respond to dilation. Urethrotomy is a delicate operation and in the hands of a careful and long-experienced operator will give results without any undue mutilation. The type of instrument I used is one that cuts from behind forward. In strictures of sufficient calibre, hard and fibrous, I use the Otis instrument with a localizer which permits of cutting at the point of stricture only. In tight strictures I use the Rogers urethrotome. After cutting I dilate with a sound and place a retention catheter which remains for twenty-four hours. This prevents bleeding and minimizes chance of infection. After removal of the catheter, irrigations are practiced for four or five days and a sound is introduced. The urethra heals in ten to fifteen days. Dilation should be

practiced as in ordinary cases. I enjoyed very much Dr. Walther's paper, but I am of the firm opinion that the urethrotome still holds its place in urinary surgery.

Dr. M. H. Foster (Alexandria): This essay of Dr. Walther is so concise and comprehensive that little may be added except by way of qualification in regard to the unusual case which will sometimes turn up. My conception of the pathology of urethral stricture is that it develops by infiltration, proliferation, and hyperplasia. Early enough, before they have suffered too long from neglect, or too frequently from abuse, this process is still soft, granular and yielding, and is therefore amenable to treatment entirely by gradual dilatation and absorption as Dr. Walther postulates in 100 per cent of the cases.

Unfortunately, however, the advanced indurated stricture with scar tissue fully formed, and of "wooden hardness," has not as yet been completely eliminated, and this is the class which will resist dilatation absolutely. These are the sufferers who compel us to rescue from "Limbo" some appropriate form of surgical relief.

Koll of Chicago says that it is necessary to do urethrotomy upon 3% of strictures, which seems to me about right. I have cut two (2) strictures since my return from the army, both negroes, in which race the tendency to fibrosis is notorious.

Case 1: Age 38, chronic stricture for eight years, with multiple scrotal and perineal fistulae, and almost complete loss of urethra as such. Treated by a number of doctors who had lanced perineal and scrotal abscesses from time to time as required for relief and drainage. On repeated attempts I was unable to succeed in entering the bladder with a filiform. External urethrotomy was done but proved inadequate. Retrograde instrumentation by way of suprapubic cystotomy was accomplished with great difficulty, and a channel of sufficient dimensions could be established only by plastic surgery of the urethra. A No. 26 Pezzer was left indwelling in the urethra for 14 days, frequent irrigations were employed. Now he is at work in the round house and I am able to pass a 28 or 30 French bougie when he returns for dilatations. He has always been absolutely intolerant to metal sounds.

Case 2: Age 28, chronic stricture for six years, hard, unyielding annular formation for nearly one inch at fossa navicularis. At first I was under the impression that I was achieving some progress with the bougies of small size, but this erroneous impression was soon dissipated when I found at my third treatment that I could not pass a bougie any larger than the size employed at the previous time. In fact, the last largest size was scarcely tolerated at this time. I was dealing with a channel then very little larger than filiform caliber. Alternating periods of rest and gentle manipulation failed to secure any progress through this negro's rawhide-like ring. (We all know that rawhide is not well gifted with stretching qualities.) Finally I did an internal urethrotomy with an Otis urethrotome set at size 30. The results have been gratifying to me and comforting to the patient. His urethra will admit bougies size 28 and 30, and it has been now about one year since his operation.

In conclusion, I think the treatment of strictures must be predicated entirely upon the pathology of the case presenting. All of the soft, yielding, granular variety (over 95%) are amenable to absorption by gradual dilatation. Those which are hard, fixed, and unyielding, have developed permanent pathology, and belong in the surgical category.

Dr. Peter B. Salatick (New Orleans): I have seen this method used: You take a patient and no matter how many strictures he has, if you can pass a small filiform, allow this to remain in for twenty-four hours, and then pass another, and do this twenty-four

hours apart, until you have passed several. I have had several metal catheters made of different sizes. I introduce a metal catheter and allow it to remain in the urethra. In twenty-four hours there is enough absorption around the stricture for the patient to void between the canal and the catheter. After twenty-four hours I introduce a little larger one, and continue that until I can introduce one the size of my finger. To protect the patient from getting urethral fever, I clamp a urethral tube to the catheter and introduce argyrol and allow the patient to pass the argyrol between the catheter and the urethra. If the patient has no temperature and no chills, in about ten days he will be well of his stricture.

Dr. Charles L. Chassaignac (New Orleans): There is much to be commended in the paper of my friend, Dr. Walther, and I enjoyed it very much; but one little criticism I hope I will be permitted to make which is accounted for by the doctor's enthusiasm and comparative youth, and that is that he made his statements a little bit too emphatic. I appreciate particularly what he says about the possibilities of curing stricture by the method of so-called dilatation, which is by pressure and absorption.

I believe we still have the same indications for the treatment of stricture that we have had for years and years. We must use judgment and common sense and we cannot lay down a hard and fast proposition today any more than thirty years ago. Some strictures, and the majority, I agree, are to be treated by the use of dilatation. Others, as Dr. Gelpi has well said, are better treated by means of internal urethrotomy, although a much smaller percentage. We all realize, too, as shown in the case of the doctor just mentioned, that some still require external cutting measures. We ought not be tied down to any one measure, but simply use what is indicated in the particular case we have to handle.

One more point about the so-called dilatation and pressure as described by Dr. Gelpi. Please, when you utilize this measure, do not introduce a sound and take it right out as many do. You lose absolutely the essence of the treatment. The idea is the pressure, whether you do it by the actual routine that Dr. Walther has mentioned or not is not material, but when you have introduced into the urethra gently the largest instrument which can be tolerated by the patient, you should let it stay in not less than ten minutes at a time, and longer if you and your patient have the time. Then you get absorption. The process will go on between times. Each time you pass a larger instrument until you get the urethra of sufficient size.

To illustrate what I mean about not being too emphatic in making statements, I do believe that occasionally a patient with stricture CAN be cured, and I have been at the business long enough to be able to testify about some such cases. In other words, when a stricture is not too old and tough, and you apply pressure sufficiently long, following the method the doctor has so well brought out, gradually increasing the size as rapidly as possible, if you can keep that up and then lengthen the intervals between the introductions of the sound, the time comes when the patient can return in a year and you may pass the same sound without the slightest difficulty. He has had no trouble in the interval, and he can go three years or five years and you can still pass the same size. Under most circumstances I consider that patient is as much cured as we can cure anything. Of course, these instances are comparatively rare.

Dr. H. W. E. Walther (closing): Dr. Chassaignac spoke of common sense, and that was my idea in presenting the paper. We have heard so much nonsense about stricture that I wanted to bring some common sense to your attention.

I still maintain that the urethrotome has no place in our armamentarium. I feel just as emphatic on that point as ever. You cannot get a urethrotome into an impassable stricture. If you can get through, then use your filiform and sound. I still maintain that cutting scar tissue will add more scar tissue. You will get scar on top of scar and ultimately more stricture formation than if gradual dilatation had been done.

WHEN A DISEASED GALL BLADDER BECOMES SURGICAL.*

By L. C. CHAMBERLAIN, M.D., New Orleans.

At the very beginning, or I may say before the beginning of this paper, I wish to say, that as far as the selection of the title is concerned, all responsibility rests with the distinguished chairman of the section. He not only honored me with the invitation to present a paper, but at my request he also presented me with the subject. I am free to say I expected something concerning the upper abdomen, but not of the gall bladder.

One is surprised, you may say astounded, by the numerous articles in every Medical Journal on the various phases of gall bladder work. Men doing research, and celebrated surgeons who with almost unlimited clinical material and data at their disposal giving us such valuable contributions makes one whose opportunities are limited feel a delicacy in expressing an opinion when it concerns this subject.

It is with the greatest pleasure and expectation that I look forward to the arrival of a Medical Journal, any one of our several excellent ones will answer the purpose, for its an almost sure thing, some distinguished man will have something to say concerning the gall bladder, and one lives in hopes that at last some one has discovered a regular definite function for this organ or settled the question as to when to drain it, remove it, or clean it out and close it up.

With all this heavy artillery, if I may use the expression, maintaining an almost constant barrage against this objective, one is extremely loath to venture forward and follow, fearing the advance perhaps might be hasty or a little forward.

When a diseased gall bladder becomes surgical—we must admit, each and every one of us, that diseased gall bladders do become surgical and that a diseased gall bladder will eventually

*Read before the Louisiana State Medical Society Meeting, April 11-13, 1922.

require surgical treatment for relief of symptoms—is now a fairly established fact.

In order that we may classify the various groups of biliary symptoms the scheme formerly suggested seems adequate.

(1) The type in which all symptoms are gastric with nothing definite to direct one's attention to the right upper abdomen.

(2) That in which symptoms are referred to the right upper abdomen.

(3) Acute emergencies, such as empyema, gangrene and common duct obstruction, not forgetting malignancy. The first two types present the greatest difficulty. The reason for this is due to the fact that for a long time gall bladder lesions meant gall stones. The sooner we forget that such is the case the sooner we can hope for improvement in the surgical therapy of biliary lesions. Do not wait for jaundice and colic to make a diagnosis; neither is nausea and vomiting more essential for diagnosis than is jaundice.

We have passed through the stage of "Appendicular Dyspepsias" and we are forced to believe that 90% or more of instances in which the symptoms are gastric, the pathologic condition is remote from the stomach, and the clinical picture the result of reflex irritation arising from other portions of the gastro intestinal tract. So as we have been educated to the above named dyspepsia, so are we coming to recognize the "Biliary Dyspepsia."

The diversity of symptoms relieved by surgical intervention in diseases of the biliary tract is too widespread to be explained by contiguity inflammation originating in the gall bladder and ducts. Moreover, such an explanation can gain no support from the gross pathology observed during operative procedures. The fact remains, however, that patients are relieved of many and varied symptoms by dealing surgically with the local pathologic conditions of the biliary tract.

It is now well established that a gall bladder which in the gross shows little evidence of a pathologic condition can cause a diversity of clinical symptoms, which are relieved by its removal. The liver often presents gross pathology in a considerable number of cases, the result of infection from the biliary tract.

The really important part of the investigation of these patients is a carefully taken history. This is often a difficult and formidable task as we are dealing with patients who have a history of gastro-intestinal disturbances extending over many years, so that many misleading answers to the usual questions are given, and one has to approach them from many angles. An inquiry as to the previous health of such patients will usually reveal a history of gastro-intestinal upsets and bilious attacks beginning when quite young and continuing with remission until seen at consultation. One of the important physical factors to consider is, of course, not only the acute infection from which the patient has suffered, but also the chronic ones from which he may still be suffering, such as infected teeth, tonsils, or accessory sinuses.

Admitting that a diseased gall bladder will require surgical treatment for relief of symptoms and that the end results of surgical intervention show a higher percentage of cures, we can hope for still better results by following a careful routine of investigation when the abdomen is opened for exploration. With the history well in mind the following routine should be followed. The cecum should be delivered and its tonicity noted. The terminal ileum is examined for kinking. The presence or absence of pericecal or pericolic bands is noted. The glands of the mesentery are palpated. The appendix is removed and condition of the ileocecal valve is noted. Attention to the stomach and duodenum is directed to note the presence or not of ulcer or spasm.

The pancreas is then palpated. Having determined the presence or absence of a pathologic condition of these areas, the gall bladder and ducts are examined. To determine at operation whether a gall bladder is pathologic or not in the early stage of disease requires careful attention and observation. If the symptoms and history warrant an exploration and the other examination is negative with the gall bladder doubtful, bear in mind the hidden possibilities in this possibly innocent appearing organ and remove it.

Before closing we should remember the great aid and assistance to be obtained from the X-ray. A thorough gastro-intestinal examination is of the utmost help and in a large percentage of cases will call our attention to a diseased gall blad-

der, perhaps in conjunction with other lesions of the gastrointestinal tract. I am sure where surgery is indicated the best results will be obtained by careful consideration of conditions as they present themselves and by attempting to adapt the technique of the most successful men to the various phases of the gall bladder as we find them.

DISCUSSION.

Dr. Peter B. Salatch (New Orleans): The more gall bladder work I do the more I fear. I think gall bladder surgery is one of the most treacherous and gives the highest mortality of any organ we have to remove in the abdominal cavity.

As far as diagnosis between an infected gall bladder and one containing stones, it has been my experience that if you palpate an infected gall bladder it is always painful, but no so with a gall bladder full of stones.

What to do with the gall bladder on operation. If you open the abdomen and find the gall bladder contains a good many adhesions, as a rule that is a diseased gall bladder through and through, and should be removed because simply draining will not cure your patient. While if it contains stones, is free from adhesions and no kinking you can drain the gall bladder and promise the patient more than if it were infected.

I think exploration is a ridiculous treatment. A man ought to decide what he will do when he enters the abdomen. It is either diseased or not, and simply working at it from the outside it is impossible to say which. Somebody has said there is no more trouble in removing a gall bladder than an appendix. That is true, but there is a reason for the high mortality in gall bladder surgery. A patient seldom comes after one attack. It is usually a long chronic trouble with intestinal complications and headaches. You have a diseased liver, you have a damming back of septic bile, and in removing the gall bladder you do not remove the infection in the liver, and unless you are careful afterwards you will not cure your patient. You should be careful about the diet and regulate it for several months.

FRACTURES OF THE LEG.*

By ISIDORE COHN, M.D., F.A.C.S., Professor of Clinical Surgery, Tulane University, New Orleans.

The following remarks are based on our observations in the treatment of fractures of the leg.

In reviewing our experiences, it is essential to divide the cases into the following groups:

1. Intra-articular fractures at the knee.
2. Fractures of the shaft of one or both bones.
3. Intra-articular fractures at the ankle.

The three groups are in turn divisible into subheadings, each subheading demanding a different procedure for ultimate recovery of the individual:

*Read before the Louisiana State Medical Society Meeting, April 11-13, 1922.

1. Intra-articular fractures may be of the sprain fracture type, complete or incomplete.

2. Complete impacted fractures of one or both bones.

It is needless to add that each of the subheads may be of the simple or compound type. In civil life, we have to do largely with the simple type.

By "sprain fracture" is meant those injuries which the patient may have considered rather lightly, and in which there is only pain or swelling about the knee; the injury is of such a nature that it does not completely incapacitate the individual. These cases are often overlooked, and a diagnosis of sprain made. The knee is strapped for a while, but when the strapping is removed, swelling about the knee persists. A certain amount of limitation of weight bearing is evident and the patient either seeks other advice, or you are humiliated by a subsequent X-ray which shows an incomplete fracture of one of the articular surfaces of the knee.

COMMENTS.

1. The old diagnosis of sprain is unjustifiable, unless fracture has been eliminated by radiography.

2. Radiograms must be made in several planes, otherwise a small, incomplete, or even a complete fracture acting as a loose body in the joint may be overlooked.

3. *When a patient with an injury to the knee presents a large amount of swelling which is soft and fluctuating, it is advisable to aspirate.*

This fluid has often been of a bloody character.

The advantages of aspiration are:

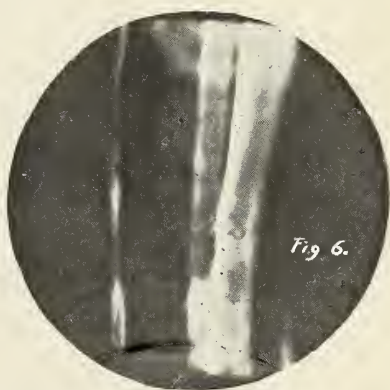
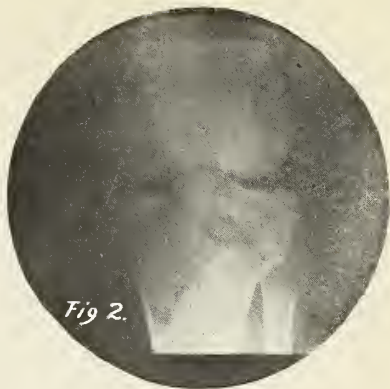
1. Distension of the capsule is prevented, (such a distension if permitted to persist, might lead to relaxation of the capsule and a consequent weak, wobbly knee).

2. There are no lymphatics within the capsule, hence absorption by natural methods would be slow.

3. Complete intra-articular fractures, which are small, act as a foreign body and had best be removed.

4. Early mobilization of the joint after such an operation is advisable.

5. Incomplete fractures should be immobilized by the use of non-weight bearing braces.



- Fig. 1. Case Mr. D. Intra-articular fracture.
 Fig. 2. Case Mr. D. After reduction.
 Fig. 3. Case L. F. Before reduction.
 Fig. 4. Case L. F. Result.
 Fig. 5. Case Mr. W. Fracture of both bones of both legs.
 Fig. 6. Case Mr. W.

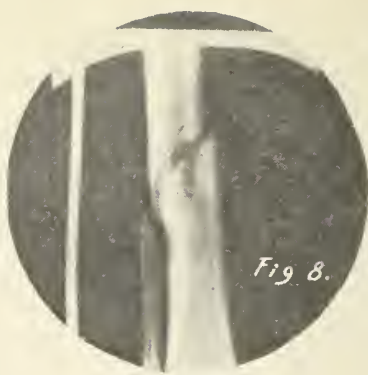


Fig. 7. Case Mr. H. W. K. Before reduction.
 Fig. 8. Case Mr. H. W. K. After Thomas splint.
 Fig. 9. Case J. F. Before reduction.
 Fig. 10. Case J. F. After reduction.
 Fig. 11. Mr. T. When first seen.
 Fig. 12. Mr. T. After reduction.

Intra-articular fractures of both bones of the leg where there is an impaction or displacement, may be treated in one of several ways:

1. Non-operative procedures are desirable where possible. Of the non-operative methods, immediate reduction of deformity by traction, with aspiration at the time, and immobilization in plaster; or,

2. Continuous traction and suspension are the most satisfactory.

Reduction is essential where there is displacement, because a persistent displacement produces a change in the axis of the limb and a consequent genu-valgum. Continuous traction and suspension is the preferred method in cases where traction will do no harm, as suspension permits of early massage and mobilization of the joints, thus favoring an earlier restoration to the normal.

Occasionally one sees cases in which there is an associated pelvic injury. In such cases immobilization in plaster following reduction seems to be the method of choice. The after care of these cases is most important. Early mobilization and massage prevent atrophy and contractures. After eight weeks have elapsed and callus seems firm, it is neither fair to the patient nor right to expect the injured knee to be capable of sustaining the body weight. Artificial aid is needed and this is easily obtained by using the calliper brace.

FRACTURES OF THE SHAFT OF ONE OR BOTH BONES OF THE LEG.

One cannot generalize, because these cases vary in type and degree. We may see (1) Incomplete fractures of one or both bones, as illustrated in the case of E. J. L.

COMMENTS: In this type of case the treatment should be directed along the following lines:

1. Immobilization.

2. Frequent removal of cast for the purpose of giving contrast baths and massage, as well as mobilizing the neighboring joints. Weight bearing should be avoided until callus is firm.

X-ray pictures taken one year after the accident showed the old fracture line. It would be interesting to determine by a follow-up system, how long this is evident.

COMPLETE SIMPLE FRACTURES OF ONE BONE.

1. Case of L. F., age 4:

Result, August 16, 1921. Examination: No difference in contour of both legs. No difference in muscle power. No limp. Child plays all the time. Never complains.

Mr. W. 11/11/21. Diagnosis: Compound fracture of left tibia and fibula. Fracture of right tibia and fibula (at middle third).

COMMENTS: In this case the compound fracture was treated as a simple fracture after debridement. The patient was made to wear non-weight bearing braces. After their removal there was no deformity—no limitation of motion in either ankle or knee, and the muscles showed little evidence of atrophy. Weight bearing is perfect.

COMMENTS ON CASE OF MR. K.

A simple fracture where there has been great trauma and a consequent extensive ecchymosis and swelling, had best be treated by suspension and traction.

Sinclair's paste must not be used under a plaster cast. Pain, when traction is being used is indicative of too much traction. Close observation, varying the amount of weight, will relieve the patient and will avoid the necessity for many hypodermics of morphine. Pain always means too much weight, constriction or incomplete reduction.

COMMENTS ON CASE OF MR. F.

Age 65. Delayed union in the aged had best be treated by conservative non-operative means, of these, the simplest is the brace. The brace permits of massage, contrast baths and *some resistive exercises*.

Complete Compound Fractures.

Case of J. F. Age 11. November 23, 1920. Diagnosis: Compound fracture of both bones of left leg.

Patient wore a non-weight brace for two months. Result: Perfect functional result, no limitation of motion at ankle and knee. Weight bearing causes no pain.

Complete Compound Infected Fractures.

Mr. T. Age —. 11/15/20. Diagnosis: Infected compound fracture of lower third of tibia and fibula of right leg.

December 23. Patient left hospital with evident union but wounds not healed. Refused to stay.

COMMENTS.

In the treatment of all fractures of the leg, irrespective of the type, there are certain fundamental principles which must not be overlooked.

First, nowhere is restoration of normal anatomic relationship more important than in these fractures. Second, weight bearing is dependent on the normal mortise of the ankle which results from the undisturbed relation of the tibial astragaloid joint. Third, anything which alters the normal axis of the tibia and fibula, alters the relationship of the astragalus and the lower end of the tibia, and this interferes with weight bearing. This point has within recent years received attention through the efforts of Dr. E. H. Skinner. Skinner states that a plane which bisects the long axis of the tibia, should bisect the astragalus.

The value of this can hardly be overestimated. It is interesting to find that Sir Percival Potts in 1769 attached great importance to the undisturbed ankle joint for weight bearing purposes. It is important also to appreciate the fact that angulation of the tibial shaft following an incompletely reduced deformity, will materially interfere with weight bearing.

As the foot is displaced forward by an angulation, complete reduction or as near as possible is essential for weight bearing. The X-ray picture taken immediately after immobilization to determine the position of the fragments is essential.

By doing this, delayed operations, if operations must be performed, will be avoided. Operative interference, when decided upon, should be done early, because during the first ten days, osteogenesis is more active than later.

In the incomplete type of fractures it is only necessary to apply a cast from time to time and have the patient given massage when the casts are removed, mobilizing the neighboring joints at the same time. A caliper brace should be worn for at least three months.

Complete simple fractures of one bone, as illustrated in the case of L. F. and C. can, in most cases be reduced by traction tables properly used. Reduction had best be accomplished under the X-ray making use of the portable apparatus.

Simple fractures of both bones may usually be reduced in a similar manner.

There are several methods of attaching the foot to the traction table: the Clove hitch; adhesive straps; canvas shoes with metal rings sewed in the axis of the limb; Sinclair's paste;

Sinclair's skate, and many more devices. The Clove hitch is dangerous if it is to be allowed to remain, as it almost invariably causes a pressure ulcer over the dorsum of the foot and over the tendo Achilles. Sinclair's paste, if used under a plaster cast, produces an irritative skin lesion.

To avoid pressure ulcers, the foot should be well padded, by using felt pads as well as sheet wadding over the dorsum of the foot and the heel.

The cases which have been cited, should prove that by properly applied traction, reduction can be accomplished by simple and conservative means. Thus far, it has not been necessary for me to resort to the use of plates or bone grafts in fresh fractures.

Of all the operative measures, the one which seems most valuable, particularly in the oblique or spiral fracture, is the Parham-Martin band. In practically all of the simple cases which I have seen, it has been possible by non-operative means to reduce the deformity, and to maintain reduction. Where there has been a great deal of primary swelling or skin irritation, a combination of suspension and traction has been used. One of the most satisfactory means of obtaining indirect skeletal traction, has been the ordinary tennis shoe with rings in the axis of the limb, to which traction straps can be attached.

Reduction having been accomplished, the cast should not be kept on longer than two weeks without removing the roof of the cast for inspection and massage. In the young, one can reasonably expect sufficient union at this time for the leg to move as a whole.

Massage, passive motion, resistive exercise and active motion are important elements in restoring the individual to his former muscular activity.

Too early weight bearing is productive of pain and future trouble, which can be avoided by non-weight bearing braces. The value of suspension methods should make them more generally adopted in hospital practice. Operative interference has been unnecessary in my experience thus far.

RADIUM IN THE TREATMENT OF MYELOGENOUS LEUKEMIA.*

By DRS. ADOLPH HENRIQUES and LEON J. MENVILLE, Department of Medicine, Tulane University.

The surface application of radium to the spleen in chronic myelogenous leukemia is not new. The literature of the past ten years contains references to the use of radium in leukemia and also refers to its use over the spleen. However there has been very little reported with regard to the dosage used and the technic of its application. The work of Ordway, which came to our notice after we had developed the method to be cited, appeared in 1917 and seems to be the principal method of procedure followed in this country. He cited one case which lived for eight months and to which he applied three series of treatments covering practically the entire surface of an immense spleen, making 29 applications in his first series, then 18 and 15 applications in the second and third series as the spleen diminished in volume.

We desire to report some observations, covering a period of eighteen months, in the treatment of chronic myelogenous leukemia by the surface application of radium over the spleen. We have refrained from earlier publication of the technic employed because we thought at least one year should elapse from the beginning of treatment before reporting our findings.

We believe that the dosage employed, the particular points of application and the intervals of treatment are original with us (Drs. Henriques and Menville and L. W. Magruder of our staff). One of the cases is in good condition eighteen months and another fifteen months since treatment began. A third case treated by this method by Dr. E. L. Irwin shows a similar improvement in the past eight months. We are indebted to the doctor for notes on the progress of his case.

Microscopic examination of the blood is necessary, not only for diagnosis, but also as an index of the effect of the radium applications upon the cellular elements of the blood and the progress of the cases. We wish to thank Drs. W. H. Harris and Andrew Friedrichs for the careful and numerous blood examinations as well as for their encouragement and valuable suggestions throughout these observations.

*Read before the Orleans Parish Medical Society Meeting, May 8, 1922.

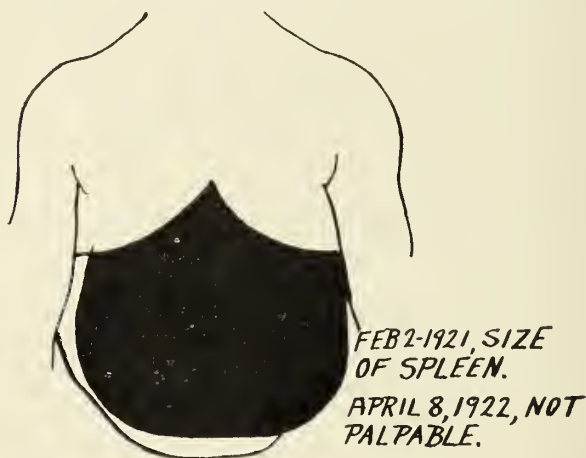
Results. An enormous spleen, extending almost to the right lateral abdominal wall, almost to the symphysis pubis and protruding markedly both towards the front and the left, has been so reduced in size that it cannot be palpated fifteen months after treatment began.

The white cells have shown a progressive decrease to the neighborhood of 20,000. We hesitated to reduce further for fear of producing a leukopenia. The myelocytes have shown a marked reduction.

The red cells increased from the region of 2,000,000 to above 5,000,000 in a little over ninety days. This occurred in two cases. In a third case where no red count had been made at the beginning of treatment, the red cells at the end of seventeen months were 5,400,000.

CHART I - CASE II

REDUCTION IN SIZE OF SPLEEN BY RADIUM



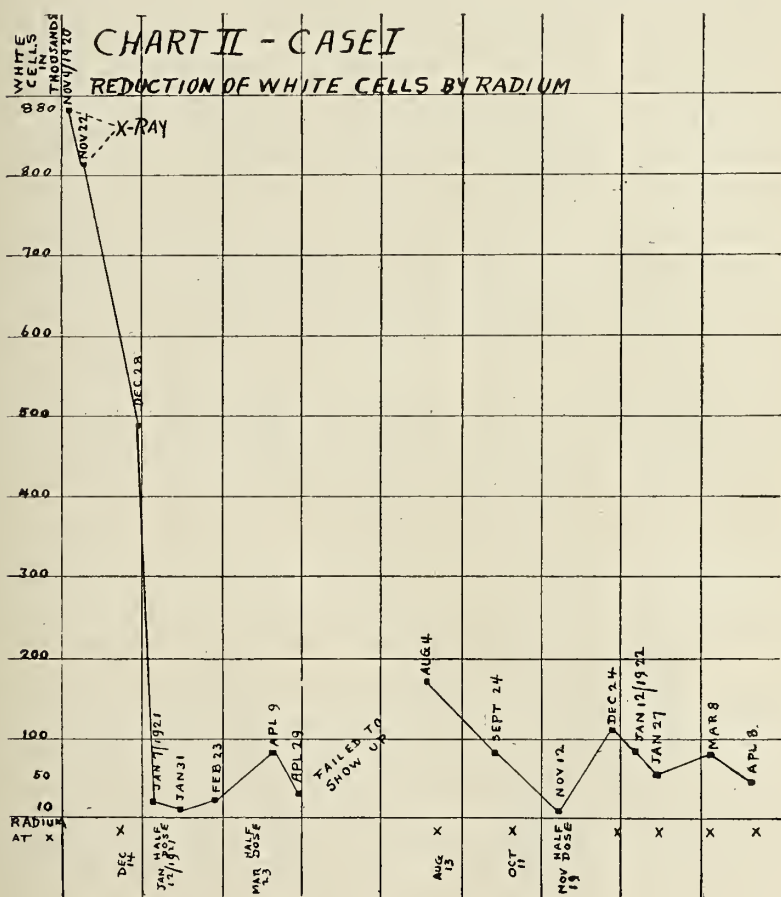
The hemoglobin has shown a marked rise.

Technic. These results were accomplished by a dosage of 2200 to 2400 milligramme hours spread over 4 areas near the centre of the spleen, through the skin, repeated monthly.

We treated the central portion of the enlarged spleen. We desired to secure an effect upon the spleen itself aside from the action upon the blood as it entered the spleen. Accepted usage in the application of radium claims that its principal effect

does not extend beyond a distance of six centimeters from the point of application. As a result of one series of applications, the enormous spleen contracted for 4 to 5 inches (10 to 12½ centimeters) from right to left and showed a marked reduction in other directions. By repeating the applications monthly the spleen continued to shrink so that it is no longer palpable.

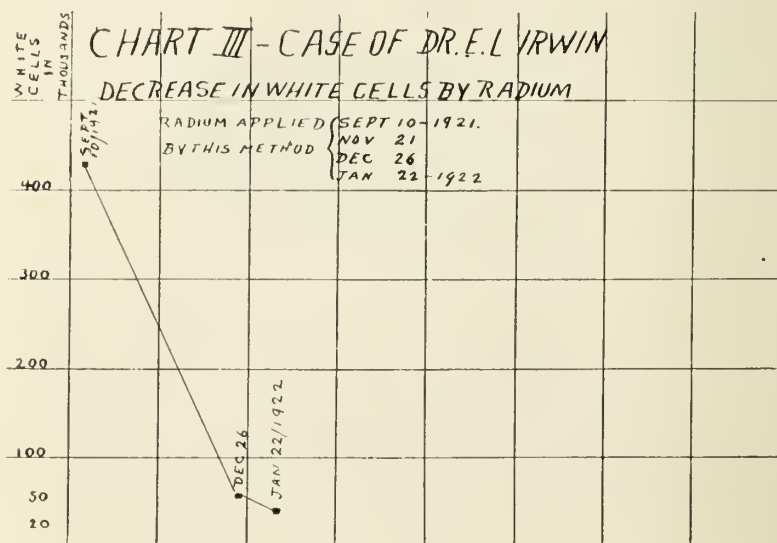
The dosage employed was 550 to 600 milligramme hours over each of 4 areas, a total of 2200 to 2400 milligramme hours. We used this dose as, acting upon the hypothesis that we were dealing with a condition considered by some pathologists to be neoplastic in character, we had found from previous experience that certain types of malignant disease yielded best to this dos-



age. The areas treated were one inch square and the radium elevated above the skin for a distance of $\frac{3}{4}$ inch and the rays filtered through 2 millimeters of lead. We used four areas because we wished to avoid any skin reactions and, we may add, that we were entirely successful in this.

The treatments were instituted monthly. We did this because we found that the maximum shrinkage of the spleen occurred in 3 to 4 weeks and later also noted that with the dosage used the white cells showed a tendency to rise after 4 weeks. Since we were able to effect such a profound palliative effect and restore to useful occupation cases which were incapacitated and rapidly going downhill we tried to maintain the palliation by these monthly applications. So far we have been successful.

The tendency is for the disease to reerudescere. When we applied only one-half the dose, the white count increased somewhat at the end of four weeks but this rise was followed by a drop upon administering a full dose. If a case was not treated for 2 or more months, the white count rose sharply. We tested this purposely in one case and involuntarily in another which failed to return for a period of several months although urged to do so. Both cases responded to the application of full doses. We have taken the liberty of speaking of the full dose employed as the myelogenous leukemic dose of radium.



If the disease is primarily in the bone marrow with metastasis in the spleen, how do we account for such a marked improvement in the blood-forming centers since only the metastasis was treated? During the course of the treatment, we observed the disappearance of metastatic nodules in both nipples of one patient, a male.

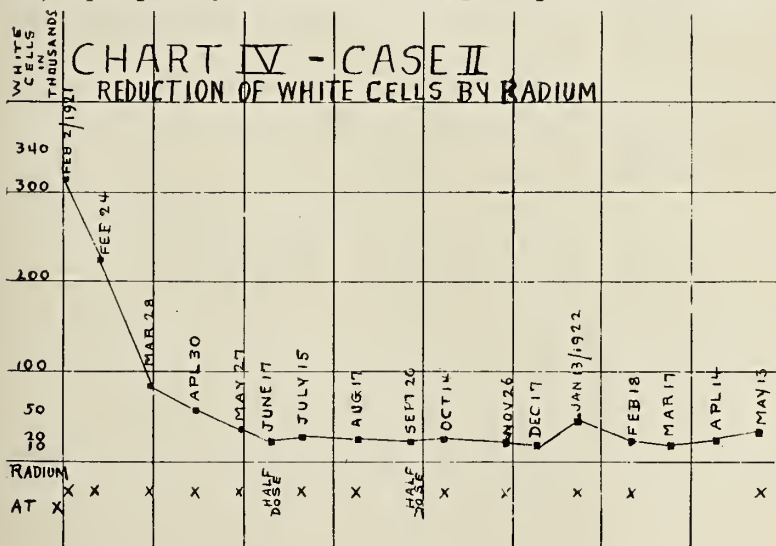
While ignorant of the function of the spleen, we thought that by inducing changes in the blood we might ascertain, to some extent, the effect of the spleen upon blood formation in bone marrow. Coincident with the rapid improvement in the general condition, the marked increase in hemoglobin, the rapid rise in red cells, the progressive drop in the white count, the decrease in the myelocytes, indicate a profound influence of splenic origin upon the bone marrow.

The tendency to epistaxis was overcome. This is of interest in connection with the work of Stephan in shortening the coagulation time of the blood by treating the spleen.

At the end of a year's apparently successful control of chronic myelogenous leukemia, we were confronted by the following alternatives:

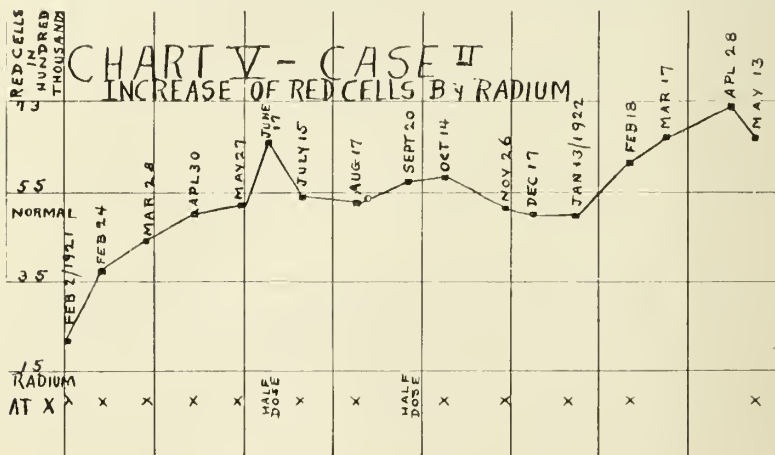
(a) To discontinue treatment, which would mean the inevitable recrudescence of all symptoms and death.

(b) To continue monthly applications for an indefinite period, a prospect by no means alluring for patient or doctor.



(e) To attempt to find, if possible, some means of diminishing the irritation of the leucoblastic centers and while this measure was being tried out, to control any marked rise in white cells by radium.

According to the pathology of this disease, the leucoblastic centers in the bone marrow are so overdeveloped that there results a mechanical crowding out of the erythroblastic centers. Now if this mechanical extermination were complete, then we would have an aplastic anaemia, without regenerative forms of red blood cells. However the type of anaemia in this disease is such that there is an attempt at red cell production even though we have immature and deformed red cells present, such as normoblasts, anisocytosis and poikilocytosis. Theoretically, a retardation or retrogression in the growth of the leucoblastic centers in the bone marrow would be associated with an attempt on the part of the erythroblastic centers to regain the equilibrium or balance which Nature has established as the normal. This struggle would express itself then by a relatively diminished production of white cells during a certain period of time as compared with a relatively increased production during an equal period of time in which this depressant action was not at work. The red cells would show just the opposite, as they would show an increased production during this period of abeyance of leucoblastic growth. Our work along this line has been carried out for only three months and as we feel that a year should pass before anything definite can



be claimed, we will say nothing further at this time except to state that we are somewhat encouraged to proceed along the lines already started and to mention the fact that one of our cases has shown an increase in red cells from around 5,000,000 to 7,400,000, and another from 3,300,000 to 5,400,000.

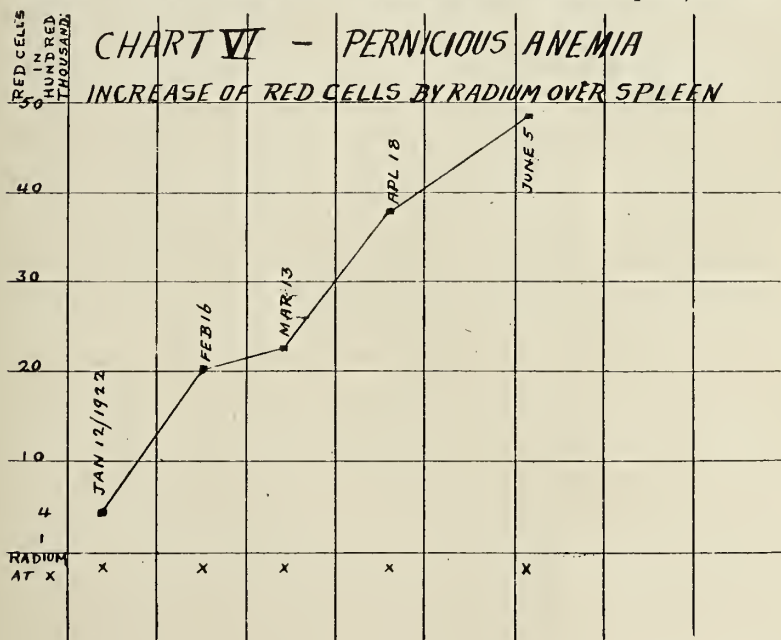
CONCLUSION: We believe that at present radium applied over the spleen offers the safest and promptest palliation for chronic myelogenous leukemia. By moderate doses, applied monthly, we not only diminish the white count but also exercise a certain regulatory action upon the splenic function and through it upon the hemopoietic system in general.

Radium applied over the spleen is a marked stimulus to red cell formation.

DISCUSSION.

Dr. A. L. Levin: I would like to ask Dr. Henriques whether it would be advisable to apply radium to the spleen in a case of Banti's disease? The case is a very interesting one: A child 12 years of age, who was admitted a day ago for the fourth time in a period of three years for relief from profuse hematemesis. The case, briefly described, is as follows:

In October, 1919, a child 9 years of age was found in bed early in the morning in a pool of blood. A year prior to this, the same thing happened. He was treated for malaria. When the case came under my observation, I found all the symptoms of a Banti's syndrome. In the course of one week, while in the hospital, he had



about twelve hemorrhages, each time losing a large quantity of blood. Various remedies failed to check the hematemesis until a donor was found and two transfusions of blood were given. Before the transfusion, his hemoglobin was 15%. He gradually improved and after nine weeks in the hospital, he was sent home. He recovered to such an extent that his general appearance, including the hemoglobin, was almost that of a normal child except for the large visible and palpable fibrosed spleen. When he was at his best, early one morning in December, 1920, he was again found in a pool of blood in bed and rushed to the Touro. Blood transfusion was again resorted to. After the second recovery, we advised the parents to have a splenectomy done, but they refused. In January, 1922, he was again admitted for the same trouble. This time his recovery was not complete, but his parents insisted on taking him home after the hemorrhages stopped. His convalescence at home was of short duration, and two days ago he was re-admitted after having had two profuse hemorrhages at home. We are again trying to check his hemorrhages by blood transfusions.

Dr. Allen, through whose courtesy the case came under my observation, sees only one promising feature in the above case—splenectomy.

If the application of massive doses of radium, applied according to Dr. Henriques' method in cases of myelogenous leukemia, causes a shrinking of the spleen, a marked increase in the red blood cells and a reduction in the whites, shouldn't we try the same method in the above case described by me? The only dangerous feature about this plan would be, the marked leukopenia which the application of radium causes and which is the interesting accomplished feature in myelogenous leukemia.

In Banti's disease, however, we are dealing with a relative leukopenia as a pathological feature. What will the application of radium do, then, to the white blood cells?

Dr. Guthrie: Drs. Henriques and Menville have presented their case in a very satisfactory way. It is a privilege we appreciate to be given the data and allowed to judge for ourselves. This the readers have done.

I am particularly interested in the record of the blood changes and I am a little proud that the two first cases of spleno myelogenous leukemia and lymphatic leukemia, respectively, upon which these characteristic blood changes under radio-therapy were observed, were reported by me before the Mississippi Valley Medical Association in October, 1903.

I am inclined to believe that radiations of the long bones is hazardous and should be resorted to only when radiations of the spleen and lymph glands have proven fruitless.

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EDITORIALS.

THE AMERICAN LEGION AND THE DOCTOR.

Ovrshadowing the memories of hardships, disappointments, double dealings and other purely personal experiences of a more or less aggravating character, the excitement and turmoil incident to the American Legion Convention must have brought with it to the world-war veteran and particularly to the doctor, a sense of pronounced satisfaction and gratification. This elation and extra thrill sprang no doubt from the realization and first-hand knowledge as to what the celebrating was all about. The medical corps was a vital part of this great victorious army recently in our midst and to every individual who served in the medical branch of the army there must have come an

exhilarating, glad-I-was-in-it sort of feeling and a keener joy at being reminded that he had been literally part and parcel of the most stupendous undertaking of all times.

JOSEPH HOLT, PIONEER.

Crandall tells us that the doctor who reaches the age of eighty has been an optimist. Surely this was true of Joseph Holt. Born in our city in 1839, the years of his childhood were spent in Mississippi. Later, returning to this city he began the study of medicine at the Charity Hospital, where he was a resident student. He received his degree from the New Orleans School of Medicine in 1861. He served as surgeon under Lee with the Second Mississippi Regiment throughout the Civil War.

Joseph Holt was best known for his inaugurating the quarantine system of maritime sanitation, which has since become the recognized system throughout the world. He served Louisiana as president of her State Board of Health from 1884 to 1888. As president of the sewerage board in 1895 he broke ground for the laying of the first sewer main in the City of New Orleans. It was fitting indeed that so historical an occasion in the life of the Crescent City should have been presided over by a member of our profession.

At one time Dr. Holt served as professor of obstetrics in the New Orleans School of Medicine, but it was always as a sanitarian that he was best known. Having served the city of his birth as soldier, physician, sanitarian, and citizen, his death was felt keenly by all who loved him—for to know him was to love him. A scholarly gentleman of the old South imbued with a nature chivalrous, his like is not made every day. Well may we say, with John McCrae, that:

“Amid earth’s vagrant noises, he caught the note sublime:
To-day around him surges from the silences of Time
A flood of nobler music, like a river deep and broad,
Fits song for heroes gathered in the banquet-hall of God.”

H. W. E. WALTHER.

SOCIETY PROCEEDINGS.

**PROCEEDINGS
OF THE
HOTEL DIEU STAFF.****Monthly Meeting for October, 1922.****The President, Dr. Homer Dupuy, in the Chair.****OSTEOMALACIA.****Case Reported by Dr. N. F. Thiberge.**

Dr. Thiberge prefaced his report by calling attention to the rarity of osteomalacia in our country and to the particularly small number of cases in the male, recorded anywhere. The case was presented with X-rays by Dr. Fortier, confirming the diagnosis.

Dr. Thiberge said that A. D. R., in Hotel Dieu for the last four months, presented a complete picture of this terrible disease. He was confined to his bed with a green-stick fracture of the right thigh and a recent complete fracture of the left. He was unable to lift himself and any movement was very painful. His mind extremely clear, was in sad contrast to his helpless body. The left eye was bulging, the skull looked compressed laterally and projected anteriorly on that side; the skin was sallow, the frame emaciated, all movements so painful that one was afraid to touch him for fear of eliciting an involuntary muscular contraction. It was on an occasion like this that the last fracture occurred, all the other fractures shown in the pictures having occurred previous to admission. With the help of the nurse, he was changing his position, his legs were hanging on the edge of the bed, he turned to lay back, feared a fall and grasped the edge of the bed with the leg. There was a violent contraction of the left thigh muscles and he fell back in bed with a complete fracture at the upper third of the femur. After eight weeks this was not yet united and there was little evidence that it ever would.

The progress of the case had been gradual. His right leg first gave him trouble, there was pain and a slight limp. A careful examination at that time revealed a porous condition of the body of the lumbar vertebrae and a provisional diagnosis of spondylitis was made at that time. Shortly after this he consulted an osteopath, who administered vigorous massage—the sittings were painful in the extreme. When the patient was first examined the ribs were compressed laterally; the right thigh was bowed out; the pelvis was flattened; the neck of each femur met the shaft at 90° and practically all the bones showed a deficiency of calcium, as could be seen in the pictures. It was two years since the first symptom was noted. The calcium blood content was low and showed a still further loss at the last examination, notwithstanding the intravenous administration of calcium. Metabolism otherwise was normal; pulse pressure was 80 diastolic, 150 systolic. Appetite was normal. With the exception of a few hyaline casts in the urine, the organs were functioning apparently well.

No assignable cause could be found except a severe shock following the sudden death of his wife after an operation. In view of the

many cases reported due to insufficient or incorrect diet (l. c. e. m.) Dr. Thiberge considered that in this case worry, shock and grief may have altered digestion and assimilation and acted as a cause. Wassermann reaction was negative repeatedly.

The peculiar features of this case were the enlarged tables of the skull, as could be seen in the picture, the spacious sella turcica and an optic neuritis. Dr. Thiberge raised the question as to whether this might not mean a hypertrophy or tumor of the hypophysis. Injury to bone has been advanced as a cause, though it could be excluded in this instance. The endocrines have been accused (o. n. s. c.), though in this case, adrenaline, pituitrin, parathyroid and thyroid were all tried with discouraging result, except a slight influence on the fever. The blood count was 8,000 white cells and showed anisocytosis.

The diagnostic points in the case were these: The early involvement of all bones which some claim is characteristic in male patients^(j); the sallow skin^(t), the pain, the characteristic appearance and the first complaint of the patient about his walk^(p); the pain and spasm of the muscles^(s)—a similar case has been reported^(r), where the long bones showed rarefaction and the tables of the skull, *as in this case*, were thickened.

A diligent search showed but three^(iv). Some go so far as to deny its existence in the male^(gs), while others⁽ⁿ⁾ claim that it exists in a mild form frequently but is overlooked. Dock collected 11 female cases^(h), another 15 cases up to 1915^(v). Brown reported 1 case in N. C.



OSTEOMALACIA. Showing bowing of femur and rarefied condition of whole bone, especially marked near the extremity. Note the calcareous condition of the femoral artery.

Treatment: Phosphorus and lime have been generously administered, so also the internal gland secretions, cod liver oil and a diet carefully selected rich in vitamins. So far 144 grains

of lime have been administered intravenously and 30 grs. of Cacodylate of Soda.

Results: Sleep improved, fever was reduced, pain and sensitiveness diminished; muscular power slightly improved by pituitrine.

In reaching a positive diagnosis the X-rays were helpful in excluding: Paget's disease; Arthritis and rheumatism; Osteoporosis, and Rachitis (epiphyseal changes absent).

Dr. Thiberge concluded that the characteristic onset involving gradually all the bones, the spontaneous fractures, the porous bones, established the diagnosis of osteomalacia. The optic neuritis, the bulging and pain in the eye, the enlarged sella turcica, suggested strongly that there might be a close relationship between calcium metabolism and dysfunction or growth of the pituitary, while the slow march of the symptoms excluded malignancy.

Doctor Dimitry stated that the case report of Doctor Thiberge was very timely and should provoke much discussion as "the deficiency diet diseases" were receiving much notice by careful research study. Considerable information was being gathered from experimental work with careful scientific deductions. Dr. Dimitry thought that Mr. E. V. McCollum's recent contribution on "The Newer Knowledge of Nutrition" had added both by compilation and investigation, very interesting information on these deficiency diseases.

The ophthalmologists have for a long period of time recognized a deficiency disease in Keratomalacia and some very interesting work has been done in this disease. He thought that Dr. Thiberge was very thorough in his investigation, yet asked if he had a field of vision made, as he referred to a neuro-retinitis and a proptosis in the right eye. He wanted to know if there were any changes noticed in the sella. He also requested further information on the blood study.

Dr. Maurice Gelpi understood that there were a number of other X-ray pictures of the case, which formed a valuable part of the record. It was most unfortunate that all the pictures were not made available to be seen and studied by the staff. For instance, in the case of the head, it would have been most inter-

esting to investigate the contour and size of the sella and note the changes in the tables.

Dr. Thiberge requested that the additional films of the case be produced, and they were demonstrated by Dr. Gately. In closing he emphasized the fact that pituitrin had been persistently used for two or three weeks, twice a day, by hypodermic, in full doses. It was discontinued on account of lack of response and high pulse pressure. He felt that McCollum's book on nutrition was masterly but did not discuss osteomalacia specifically. Fat soluble vitamins were generously administered. Metabolic studies were made by Drs. Couret and Mayer.

Dr. Thiberge presented to the Staff the complete bibliography on Osteomalacia as obtainable in the library of the Orleans Parish Medical Society.

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**PROCEEDINGS
OF THE
TOURO INFIRMARY STAFF.**

Monthly Meeting for October, 1922.

The President, Dr. C. Jeff Miller, in the Chair.

CARCINOMA OF THE LARYNX.

Dr. Matas reported a case of carcinoma of the larynx treated by total laryngectomy.

Record 96362 was read by Dr. Bodick, the interne on the service.

Mr. L. W. Y., of Tylertown, Mississippi, age 64 years, all his life a farmer and resident of his county, was admitted to the Touro Infirmary on April 5, 1922, discharged May 17, 1922. The personal history and previous history is irrelevant except that his mother died of carcinoma of the uterus and his paternal grandmother, of some form of carcinoma. His history is free from any venereal taint, and he has a negative Wassermann. History of present illness began five months ago when the patient noticed that his trouble was a slight hoarseness. There was also a slight cough, which he said was voluntary in order to clear his throat. There was no history of any persistent sore throat or pathology in the upper respiratory tract and no pain. The hoarseness has grown worse, the patient gradually losing his voice until the state of complete aphonia was reached. Throughout his illness there has been no pain or discomfort other than the loss of his voice. The medical attention he has had before coming to the hospital has been negative. He was examined previously about one week before admission by Dr. O'Kelley who established the diagnosis of carcinoma of the larynx. Since his admission, April 5th, 1922, he has been carefully examined by Dr. Kearney, who confirms the diagnosis.

Operation April 11th, 1922.

The operation was begun as an exploratory laryngo-fissure to determine the extent of the neoplastic infiltration and terminated in a complete laryngectomy.

The operation was continued thruout with local and regional anesthesia with the Dunn infiltration apparatus. The middle line was injected from hyoid to sternum, then some middle line injections were made to reach the superior laryngeal nerves

above, and the thyro-hyoid membrane to control the sensibility of the organ, then further, laterally, to control the transverse branches of the cervical plexus and also the deep nerve supply of the laryngo-pharyngeal junction. With this anesthesia, an incision was made in the middle line, extending from the hyoid bone to about $1\frac{1}{2}$ inches above the sternal notch. Two skin flaps were then dissected back laterally including the platysma myoides and deep cervical fascia. The anterior border of the thyroid was clearly exposed with the cricoid in the midline. The cartilage was divided throughout its length. On retraction of the divided thyroid, the interior of the larynx was clearly exposed without any great reflex disturbances on the part of the patient. The breathing continued normally with comparative ease and very little cough. It was seen that the neoplasm occupied the right half of the larynx and included the ventricle and right vocal cord and extended back to the aryteno-epiglottic fold. When this had been decided dissection of the larynx began by complete detachment of the laryngeal box from all its surroundings, taking care to detach the overlying muscles only at the point of attachments of the cartilage and preserving the musculature as perfectly as possible. After dissecting the larynx as far back as the pharyngeal junction, the cricoid was dissected clearly from before backwards, and then the trachea divided transversely at the pharyngeal junction. The larynx was then lifted up and the posterior surface very carefully detached from the pharyngeal wall which was preserved intact until the glottic opening was reached, when the communication was necessarily exposed. The larynx was still further dissected away from the thyrohyoid, the great cornua of the hyoid being cut with bone forceps and allowed to remain behind. The entire larynx in this way was completely removed with the least damage to the pharyngeal wall and with an opening in the pharynx reduced to the strictest minimum. The tracheal opening was now brought forward to project beyond the level of the cutaneous incision so that contamination could not take place from the tracheal secretions. The pharynx was then thoroughly wiped out and the pharyngeal opening was carefully sutured with chromic gut in a way that the mucous surface projected within the pharyngeal side. This first line of suture was reinforced with a second line which included some of the pharyngeal muscles and this was

again reinforced by overlapping muscular flap consisting of the muscles of the sternohyoid group, giving security to the line of suture. The tracheal orifice was now brought down to the lower angle of the wound anchored to the skin and fascia. The deep muscular layers above this were then united with interrupted catgut sutures, leaving a tubular drain that extended to the depth of the wound as high as the hyoid level, after which the cutaneous incision was closed by a series of interrupted silk worm sutures. The operation was continued with practically no pain. The patient never gave any evidence of suffering. Hemostasis also was very satisfactory, all vascular points being ligated separately.

The wound was dressed in the usual way with sterile gauze and a very firm circular gauze collar, leaving the trachea opening exposed. Finally, a feeding tube was left in the stomach projecting through the nose with the expectation that it would remain until the pharyngeal opening had closed. Through this tube the patient was at once given a supply of cold water and other refreshments. As a whole, the operation was very satisfactory and seemed to be associated with very little disturbance.

POST-OPERATIVE NOTES:

Laryngectomy performed April 11th, 1922, for carcinoma. On April 13th the wound showed a purulent discharge with puffiness about the suture line. Superficial sutures removed for drainage and Dichloramine T. pack inserted and changed daily. On the 16th, Peroxide injected into the wound appeared as foam in the pharynx showing that there was an opening thru and thru. Considerable superficial sloughing occurred in upper angle of wound, but by the 20th the edges presented a more healthy appearance. By the 26th, the slough had apparently entirely separated but the opening into the pharynx remained, also a tunnel under a small bridge of skin between the lower end of incision and the tracheotomy opening.

Dichloramine T. was used while there was infection but for the past week Balsam and oil has been used. Examination, May 4th, 1922, showed that a probe introduced from the upper angle of the wound still passed into the pharynx but the tract is much smaller. The tunnel at the lower end has become closed and covered by healthy skin. Tracheotomy tube used throughout and

it has been well tolerated. For feeding a nasal tube was used from the first because of leakage of food from the pharynx into the wound. This method has served very well and the patient seems quite comfortable with it. He has gained in weight and appears much better than before. Packing of the wound has been discontinued and the tract to the pharynx allowed to close.

On the 9th the patient was allowed to drink about $\frac{1}{2}$ glass of water and careful observation of the external opening into the pharynx failed to show any leaking of fluid.

On the 10th, nasal tube was removed and feeding began by mouth. No leakage of food but there was slight stiffness on swallowing.

On the 15th, it was reported that after removing the nasal tube patient was able to take liquids and later full diet with slight inconvenience—stiffness of throat in swallowing is the only thing complained of. There has been no leakage of food thru the opening into the pharynx. Patient was discharged from hospital on May 17th, 1922, in very good condition.

Dr. Kearney examined the patient laryngoscopically on May 13th, 1922, and reported as follows: "The picture in the laryngoscopic mirror shows the epiglottis intact. The pharynx is funnel shaped, ending with the walls in apposition at the lower end of the epiglottis, this appearance being due evidently to obliteration of the pyriform sinuses by the closure of the pharyngeal opening during laryngectomy. On attempted phonation a little deeper view is obtained showing a slight roughness of the anterior wall below the lower border of the epiglottis, at the site of the glottic aperture. There is no evidence of any new growth. The esophagus does not drain the secretions in the normal manner as there is an accumulation of a dram or so of saliva at the bottom of the pharyngeal funnel.

Dr. Matas stated that this experience was instructive in several ways. First, the recovery of the patient with his perfectly healed wound showed (with other cases in his experience) how an operation which less than 20 years ago was followed by a mortality of 60 and 75 per cent, has now become comparatively benign; second, the factors in this reduction of mortality, as illustrated in this case are (1) local and regional anesthesia; (2) the avoidance of secondary food infection by the use of a

feeding gastric tube introduced through the nose, this being allowed to remain until the healing of the pharyngeal wound is assured. He felt that this post-operative feeding by nasopharyngeal intubation was a decided improvement in the post-operative treatment.

It was admirably borne by this patient and it kept food and drink from contaminating the peritracheal tissues, and especially avoided a possible pneumonia from the penetration of food and septic fluids into the trachea. At one time he believed it was necessary to perform a laryngectomy in two stages; the first, to isolate the larynx and trachea by dissection, and, secondary, packing of the peritracheal space with iodoform gauze. This was allowed to remain almost one week when the second stage, which completed the extirpation of the larynx was performed. By this preliminary packing of the peritracheal space until granulations had formed, secondary cellulitis and mediastinitis, which had proved so fatal in the past, was avoided. This suggestion of Crile's was a decided advance in the technic and gave very satisfactory results. This case, however, showed that by resorting exclusively to nasopharyngeal tube feeding this packing was not essential to success, even though infection might occur in the wound through failure of the pharyngeal wound to unite, or to necrosis of a part of the posterior segment of the tracheal ring, as in this case.

The third instructive fact which he believed would be established by this patient, in the course of time, as was already demonstrated by another patient, was that total laryngectomy may be followed by an audible and clearly intelligible voice and speech without any artificial aids.

A few weeks ago he exhibited a patient at one of his Charity clinics, on whom he had performed a total laryngectomy for cancer with secondary glandular metastasis. This patient has now survived over 8 years since the operation without recurrence. He was a hard working laborer, and his speech was quite clear and intelligible at ordinary conversational distance without any artificial phonatory helps whatever.

NEWS AND COMMENT.

AMERICAN LEGION NATIONAL CONVENTION at New Orleans, October 16-20. It was noted that many physicians and nurses attended the convention either as individuals or with their respective units. Numerous reunion luncheons and dinners were held on Divisions Reunion Day, October Seventeenth. Among these celebrations was that of Evacuation Hospital No. 14, headed by Dr. Louis Weaver, of York, Pa., at Galatoire's.

Among the many "Voyageurs Militaire" attending the Third Promenade of La Societe Des 40 Hommes et 8 Chevaux, were a number of our confreres from distant voitures. The local voiture was represented by Drs. Trepagnier, Otis and Genella.

The Catherine Dent Post should be commended for their untiring interest and assistance in making the convention a success. They should be complimented also for their appearance and numbers in the parade.

Serving on the various committees were Drs. Frank J. Points, John B. Elliot, Jos. A. Danna, W. J. Otis, Muir Bradburn, S. F. Braud, Chas. E. Verdier, Maj. Leopold Mitchel, Paul T. Talbot and Herbert Page.

Considering the fact that the Legion is really the army without the restraint of officers and regulations, and in view of the fact that in New Orleans as elsewhere it was noticed that prohibition did not altogether prohibit, be it said to the credit of the Legion that the general behavior was gratifying and the "casualties were few."

THE CENTRAL COUNCIL SOCIAL AGENCIES, at their meeting on Tuesday evening, October 24th, discussed Medical Social Service from various viewpoints. Those taking part in the discussion were Dr. Spelman, Superintendent of Touro Infirmary, and Miss Bachman and Dr. Walter J. Otis, representing the Social Service Department of Charity Hospital.

IN THE SIXTH CONGRESSIONAL DISTRICT. The second meeting of the Sixth Congressional District Medical Society was held at the Elks' Home in Donaldsonville, October 11th. There were 68 members present. The following papers were read and liberally discussed: "Headaches Due to Cervical Arthritis," Dr. C. S. Holbrook, New Orleans, La.; "Two Unusual Surgical Liv-

ers," Dr. R. C. Kemp, Baton Rouge, La.; "Granuloma Inguinalae," Dr. D. T. Martin, Donaldsonville, La.; "Hygienic Marriage Law" (20-minute address), Dr. R. M. G. Carruth, New Roads, La.

Doctors Paul Gelpi, Geo. Dempsy, C. V. Unsworth, E. Block, L. Fossier, P. T. Talbot were guests of the society. Dr. George Dempsy elucidated some points on vital statistics, which proved very interesting.

Following the scientific session the society adjourned to the Hotel Donaldson, where dinner was served, after which the members and guests visited the fair.

IN THE SEVENTH CONGRESSIONAL DISTRICT. The quarterly meeting of the Seventh District Medical Society was held in Lake Charles, Louisiana, Thursday, September 28th, 1922. The president, Dr. N. S. Craig, of Jennings, Louisiana, presided with about fifty members present. The Society was honored by the presence of Drs. Paul J. Gelpi, John B. Elliot, Jr., and W. W. Butterworth, of New Orleans. Dr. Warren G. Young, of Jennings, La., read a paper on Mediastinal Tumors, reporting a case with X-ray demonstration. The paper was discussed by Drs. G. F. Edwards of Lafayette, La., and Dr. G. C. McKinney of Lake Charles. Dr. Butterworth gave a talk on Congenital Leses, laying particular emphasis on the history, symptoms and differential diagnosis. Dr. John B. Elliot talked on Continued Fevers and their differentiations. Dr. E. M. Ellis of Crowley, La., reported three cases of Tabes treated with intraspinal injections of mercury. Dr. Paul J. Gelpi, President of the Louisiana State Medical Society, of New Orleans, talked on Organization. A general discussion followed each address. After the meeting the Calcasieu Parish Medical Society entertained at a special banquet with music at the Majestic Hotel. The next meeting is to be held during December in Crowley, Louisiana.

AT THE CLARITY HOSPITAL, NEW ORLEANS. Ward 7 has been completely repaired and is now receiving patients. An experiment is being tried out in this ward by placing sheet rock around the walls. This has been done with a view to eliminating the discoloration of the walls due to the ascent of moisture into the plaster. The results of this experiment will be closely watched in order to determine whether it would be advis-

able to place sheet rock along the wall of the Main Building. Recorders have been placed on the sterilizers in the Miles Amphitheatre and the Delgado Operating Rooms. This instrument indicates the vacuum and registers on a dial the amount of steam pressure for a given time. It also registers the time of each sterilization. Charts are removed each morning. This furnishes a complete and accurate check of the sterilization.

The number of patients in the hospital is unusually high, there being 1098 patients today, October 25th. The peak was reached when we had 1106 patients in the hospital. This number is fully two hundred more than the average.

IN THE EIGHTH CONGRESSIONAL DISTRICT there are three important institutions, namely: The Baptist Hospital at Alexandria, the U. S. Veterans' Hospital No. 27, Camp Stafford, and the Louisiana Hospital for the Insane, at Pineville.

The clinical work in each is conducted by a respective Staff Unit, and it is planned to make reports from the proceedings of one or another of these units, for each number of the Journal. For various reasons, however, it was impossible to obtain an official report from any of these in time for the November issue.

Elaborate improvements are in process at the Veterans Hospital, where the war time emergency buildings of the old Base Hospital are being gradually replaced with structures of more permanent construction. Among the completed projects, the mess halls and kitchen, destroyed by fire last year, have been replaced at a cost of \$65,000, and a new water supply system has been installed at a cost of \$20,000. This includes a 75,000 gallon gravity tank, with a 150,000 gallon base reservoir. In addition to the above, a Chlorinating apparatus for the water supply of the station, has been approved and will soon be installed. With present equipment a repetition of last years disastrous fire is hardly possible.

The following approved projects are now in process of construction:

- | | |
|---|----------|
| 1. Replacement of wooden footings under buildings
with concrete footings | \$25,000 |
| 2. Disposition of surface drainage | 22,500 |
| 3. Construction of runways, sheltered, etc. | 3,000 |

4. Remodeling of Commanding Officer's Quarters ...	400
5. Remodeling of wards	5,000

There are two important features to the last item of construction, *First*: the Hospital now has an adequate supply of Isolation Units for the proper control of any contagious epidemic, such as Influenza or Meningitis.

Second: there is a large open Tuberculosis ward, completely screened in on four sides, and provided with ample protection against inclement weather.

In addition to the above building construction and extensions, additional toilet facilities have been recommended, carrying an expenditure of approximately \$50,000.

This item has not yet been approved.

THE FIRST ANNUAL FAIR for the whole of Central Louisiana was held at Alexandria during the entire week of October ninth. The Public Health Exhibit occupied a booth at one of the entrances to the main permanent building. Demonstrations and instructions were given in Sanitation, Disease Prevention and Child Welfare. Venereal Disease work was featured by literature, apparatus, and the stock solution of Arsphenamin, which was developed in an Alexandria Laboratory where it has been used for over three years without accident.

On Friday, October thirteenth, nearly two hundred babies were examined at the Baby Conference by a staff of local doctors assisted by Miss Reed and Miss Merrill, respectively of the Lake Charles and Alexandria Public Health Units. It was universally regretted that Dr. Maud Loeber was prevented from attending by illness. Dr. Abbott was also kept at home by illness.

Dr. G. M. G. Stafford has returned to his home in Alexandria and resumed practice, after several weeks absence in Southern California.

Dr. Marvin Cappel spent the week of October sixteenth in New Orleans attending the American Legion reunion.

AT TOURO INFIRMARY. Touro Infirmary announces the appointment of an additional Assistant Superintendent in the person of Mr. Carl A. Brimmer, who will report in New Orleans about November first. Mr. Brimmer was formerly a Public Accountant and comes well recommended from the hospitals

in which he has served his last post being Assistant Superintendent, University Hospital of the State University of Iowa.

The plans for the new Touro Annex are rapidly developing and it is expected ground will be broken about January 1st. Recent inspection of the new hospital building development in the east by Dr. Spelman discloses the fact that Touro plans have either incorporated all the new features of modern hospital construction or have considered and discarded them to meet local exigencies. The new development will include a modern dispensary plant and an entire floor to be devoted exclusively to the care of Obstetric cases.

Dr. Rudolph Matas is at present sojourning on the Continent, but vacations, as a whole, are over and Touro Staff is carrying its full complement of doctors.

THE TENTH CONVOCATION OF THE AMERICAN COLLEGE OF SURGEONS was held in Symphony Hall, Boston, on October 19th. The annual meeting of the Fellows of the College was called at 3:00 o'clock on the afternoon of October 27 in Jordan Hall. The annual election of members of the Board of Governors occurred at that time.

THE REGULAR QUARTERLY MEETING of the Lafourche Valley Medical Society, was held in Thibodaux on Tuesday, August 8th, 1922. The attendance was good. The program was incomplete on account of the unavoidable absence of two of the essayists. Dr. H. C. Dansereau of Labadieville discussed "Angina Pectoris."

The visitors present were: Dr. W. Wild, of Minnesota, and Dr. J. C. Dempsey, of the La. State Board of Health. The latter addressed the meeting on the urgent necessity of registering all births, deaths, marriages and divorces.

After the scientific session the doctors assembled at Hotel Jefferies where an enjoyable banquet was served.

THE INNOVATION INTRODUCED at the Clinical Congress of the American College of Surgeons in Philadelphia last year, in that the first day was devoted to a Hospital Conference, was duplicated at the Congress of the College in Boston, on Monday, October 23, the first day of the Congress. The morning session was devoted to the reading of papers on standardization and

other hospital problems, while the afternoon session was confined largely to discussion of the minimum standard.

REMOVALS: Dr. D. N. Silverman, from 630 to 624 Maison Blanche.

Dr. L. R. De Buys, from 3439 St. Charles Ave. to 1437 Delachaise St.

Dr. W. P. Tilly, from 802 Maison Blanche Annex to St. Rita Surgical Infirmary.

Dr. Isadore Cohn, from 1211 Maison Blanche to 1522 Aline St.

Dr. T. A. Maxwell, from 1210 Maison Blanche to 207 Maison Blanche Annex.

Dr. C. Jeff Miller, from 405 Medical Bldg. to 512 Hibernia Bank Bldg.

Dr. H. E. Miller, from 405 Medical Bldg. to 512 Hibernia Bank Bldg.

Dr. E. L. King, from 416 Medical Bldg. to 512 Hibernia Bank Bldg.

Dr. Gayle Aiken, from 411 Macheca Bldg. to 1225 Second St.

Dr. H. Bayon, from 1235 to 1122 Maison Blanche.

Dr. F. L. Fenno, from 1123 Maison Blanche to 407 Medical Bldg.

Dr. P. A. Moore, from 105 Chartres St. to Godechaux Bldg.

Dr. E. J. De Bergue, from 2024 Carondelet St. to 2232 Magazine St.

Dr. Upton Giles, from 3439 St. Charles Ave. to 3621 Prytania St.

Dr. A. Ledoux, from 1218 Maison Blanche to 2007 Esplanade Ave.

Dr. G. M. Graham, from Woodworth, La., to Kinder, La.

Dr. I. E. Seiss, from Alexandria, La., to Alco, La.

Dr. F. T. Beatrous, from 1232 to 1210 Maison Blanche.

BOOK REVIEWS AND NOTICES.

All new publications sent to the JOURNAL will be appreciated and will invariably be promptly acknowledged under the heading of "Publications Received." While it will be the aim of the JOURNAL to review as many of the works accepted as possible, the editors will be guided by the space available and the merit of respective publications. The acceptance of a book implies no obligation to review.

The Management of the Sick Infant, by Langley Porter, M.D., M.R.C.S. C. V. Mosby Co., St. Louis, 1922.

Differing from the usual text books on pediatrics in that it deals exclusively with the management of sick infants and does not include childhood, this book constitutes a departure from the older order. The authors have well succeeded in their aim to aid practitioners in this field of work by the up-to-date and yet conservative handling of this subject. The question of feeding is broadly handled and speaks for a large experience and knowledge. The section on diagnosis and differential diagnosis is admirably elucidated by excellent illustrations and will prove of real value to students and practitioners especially. The book will be welcome, and will prove of value to all who are interested in the caring of infants.

J. S.

Hughes' Practice of Medicine, Twelfth Edition, by R. J. E. Scott, M.A., B.C.L., M.D., P. Blakinston's Sons & Co., Philadelphia.

An enormous amount of information is contained in this small volume. In its general arrangement and scope, it conforms to the conventional works on practice, except for the addition of a section on diseases of the skin. The book, though not a compend, is too brief to be recommended to students, but should be of great value to the busy practitioner, who wishes a rapid, accurate and concise reference to refresh his knowledge.

C. J.

PUBLICATIONS RECEIVED.

C. V. Mosby Company, St. Louis: *Elements of Scientific Psychology*, by Knight Dunlap; *Physiology and Biochemistry in Modern Medicine*, by J. J. R. McLeod, M.D., fourth edition; *Physical Diagnosis*, by W. D. Rose, M.D., third edition.

Washington Government Printing Office, Washington, D. C.: *United States Naval Medical Bulletin*, Vol. 17, No. 4, October, 1922; *Public Health Reports*, Vol. 37, Nos. 36, 37, 38, 39.

Miscellaneous: *Ophthalmoscopy, Retinoscopy and Refraction*, by W. A. Fischer, M.D., F.A.C.S.; *International Health Board*, The Rockefeller Foundation, *Eighth Annual Report*, January to December, 1921.

Reprints.

United States Steel: *A Corporation with a Soul*, by Hon. Will R. Wood; *A New Suggestion in the Treatment of Puerperal Eclampsia*, by Capt. J. T. Ainslie Walker, R.A.M.C. (T.F.); *The Way of Progress, Debate in the United States Senate*; *Man the Erect and Cancerous*, by R. C. Kelsey, M.D.; *Public Health* No. 729.

MORTUARY REPORT OF NEW ORLEANS.

Computed from the Monthly Report of the Board of Health of the City of New Orleans, for September, 1922.

CAUSE	White	Colored	Total
Typhoid Fever	1		1
Intermittent Fever (Malarial Cachexia)		1	1
Smallpox			
Measles			
Scarlet Fever			
Whooping Cough			
Diphtheria and Croup	3		3
Influenza	3	2	5
Cholera Nostras			
Iyemia and Septicemia			
Tuberculosis	28	25	53
Cancer	29	9	38
Rheumatism and Gout			
Diabetes	5	1	6
Alcoholism	1		1
Encephalitis and Meningitis	4	2	6
Locomotor Ataxia	1	1	2
Congestion, Hemorrhage and Softening of Brain	24	11	35
Paralysis	2	1	3
Convulsions of Infancy	1		1
Other Diseases of Infancy	12	15	27
Tetanus		1	1
Other Nervous Diseases	4	2	6
Heart Diseases	42	32	74
Bronchitis	2	1	3
Pneumonia and Broncho-Pneumonia	15	10	25
Other Respiratory Diseases		1	1
Ulcer of Stomach		1	1
Other Diseases of the Stomach	3	1	4
Diarrhea, Dysentery and Enteritis	15	7	22
Hernia, Intestinal Obstruction	5	2	7
Cirrhosis of Liver	3	3	6
Other Diseases of the Liver	4	2	6
Simple Peritonitis			
Appendicitis	11	2	13
Bright's Disease	13	20	33
Other Genito-Urinary Diseases	3		3
Puerperal Diseases	10	3	13
Senile Debility		1	1
Suicide	6	1	7
Injuries	16	11	27
All Other Causes	37	34	71
Total	303	203	506

Still-born Children—White, 27; colored, 16; total, 43.

Population of City (estimated)—White, 295,000; colored, 110,000; total, 405,000.

Death rate per 1000 per annum for month—White, 12.32; colored, 22.14; total, 15.01. Non-residents excluded, 12.77.

METEOROLOGIC SUMMARY (U. S. Weather Bureau).

Mean atmospheric pressure30.00

Mean temperature81.

Total precipitation 0.93 inches

Prevailing direction of wind, southeast.

NEW ORLEANS MEDICAL AND SURGICAL JOURNAL

GENERAL INDEX.

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ORIGINAL ARTICLES.

(No paper published or to be published in any other medical journal will be accepted for this department. All papers must be in the hands of the Editors on the tenth day of the month preceding that in which they are expected to appear. Reprints may be had at reasonable rates if a WRITTEN order for the same accompany the paper.)

ACUTE APPENDICITIS—A SURGICAL PROBLEM.*

By P. GRAFFAGNINO, M.D., Surgical House Officer, Charity Hospital, N. O., La.

Acute Appendicitis was once an all-absorbing theme. It had its day in the editorial of newspaper and magazine; elicited demonstrative orations wherein the medical profession tendered to their co-workers and the future M. D.'s, the gleanings of years of study, observation and practice on this subject; gave birth to innumerable essays and text books. The press today regards it as a subject threadbare and obsolete; the average surgeon as something of common knowledge that has been thoroughly covered, while the essays and text books, filled with priceless knowledge dealing with the conservation of human life, have found homes on the shelves of Medical Libraries and are a source of endless enlightenment to the student seeking information along these lines.

Since this disease has been so thoroughly covered, the information at our disposal so invincibly conclusive, why is the general public so lacking in knowledge regarding its danger?

*Read before the Louisiana State Medical Society Meeting, April 11-13, 1922.

It has been my privilege to serve this Institution as House Surgical Officer for the past year and nothing has astonished me more than the number of delayed and neglected cases, the consequent high mortality and the prolonged difficulties resulting therefrom when recovery occurs. To my utter amazement, on consulting the hospital records for the past ten years, the general death rate has varied very little, but the rate in the delayed and neglected cases, that is, when suppuration and gangrene have occurred, has steadily increased. The following figures from the hospital yearly records are self-explanatory:

1912:	Total Cases	249	Total Deaths	14	Rate	5.62%
1913:	" "	257	" "	7	"	2.73%
1914:	" "	321	" "	25	"	7.78%
1915:	" "	373	" "	23	"	6.17%
1916:	" "	433	" "	25	"	5.77%
1917:	" "	509	" "	29	"	5.11%
1918:	" "	476	" "	32	"	6.72%
1919:	" "	477	" "	33	"	7. %
1920:	" "	622	" "	33	"	5.3 %
1921:	" "	767	" "	36	"	4.79%
GRAND TOTAL		4,484		257		5.73%

Year 1912	DEATHS			DEATHS		
	White	Colored	Total	White	Colored	Total
Appendicitis, Catarrhal	119	20	139	1	1	2
Appendicitis, Recurrent	56	5	61	3	—	3
Appendicitis, Suppurative	32	14	46	4	3	7
Appendicitis, Gangrenous	2	1	3	1	1	2
Total	209	40	249	9	5	14
Catarrhal and Recurrent:			Deaths		Rate	
" " "			White	175	4	2.28%
			Col.	25	1	4. %
			200	5	2.5 %	
Suppurative and Gangrenous:			White	34	5	14.71%
" " "			Col.	15	4	26.66%
			49	9	18.4 %	

Year 1913				DEATHS		
	White	Colored	Total	White	Colored	Total
Appendicitis, Catarrhal	85	15	100	—	1	1
Appendicitis, Recurrent	101	12	113	1	—	1
Appendicitis, Suppurative	29	12	41	4	1	5
Appendicitis, Gangrenous	3	—	3	—	—	—

Total218 39 257 5 2 7

Catarrhal and Recurrent			Deaths		Rate
	White	Total	White	Colored	
	186		1		.53%
“ “ “	Col.	27	1		3.7 %

213 2 .9 %

Suppurative and Gangrenous					
	White	Total	White	Colored	
	32		4		12.5 %
“ “ “	Col.	12	1		8.3 %

44 5 11.4 %

Year 1914				DEATHS		
	White	Colored	Total	White	Colored	Total
Appendicitis, Catarrhal	109	29	138	7	1	8
Appendicitis, Recurrent	104	22	126	1	—	1
Appendicitis, Suppurative	39	11	50	9	5	14
Appendicitis Gangrenous	6	1	7	2	—	2

Total258 63 321 19 6 25

Catarrhal and Recurrent			Deaths		Rate
	White	Total	White	Colored	
	213		8		3.75%
“ “ “	Col.	51	1		1.96%

264 9 3.40%

Suppurative and Gangrenous					
	White	Total	White	Colored	
	45		11		24.4 %
“ “ “	Col.	12	5		41.7 %

57 16 28.05%

Year 1915				DEATHS		
	White	Colored	Total	White	Colored	Total
Appendicitis, Catarrhal ...	75	19	94	1	—	1
Appendicitis, Recurrent	159	24	183	3	—	3
Appendicitis, Suppurative	67	24	91	12	5	17
Appendicitis, Gangrenous	4	1	5	2	—	2

Total305 68 373 18 5 23

			Deaths		Rate	
			White	Deaths	Rate	
Catarrhal and Recurrent	White	234	4	1.71%		
“ “ “		43	—	—	—	
		277	4	1.45%		
Suppurative and Gangrenous	White	71	14	19.7 %		
“ “ “	Col.	25	5	20. %		
		96	19	19.8 %		

			DEATHS			
Year 1916	White	Colored	Total	White	Colored	Total
Appendicitis, Catarrhal	77	26	103	2	—	2
Appendicitis, Recurrent	207	57	264	2	3	5
Appendicitis, Suppurative	38	26	64	9	9	18
Appendicitis, Gangrenous	2	—	2	—	—	—
Total	324	109	433	13	12	25

			Deaths		Rate	
			White	Deaths	Rate	
Catarrhal and Recurrent	White	284	4	1.44%		
“ “ “	Col.	83	3	3.61%		
		367	7	1.90%		
Suppurative and Gangrenous	White	40	9	22.5 %		
“ “ “	Col.	26	9	39.4 %		
		66	18	27.2 %		

			DEATHS			
Year 1917	White	Colored	Total	White	Colored	Total
Appendicitis, Catarrhal	70	21	91	2	—	2
Appendicitis, Recurrent	259	55	314	3	—	3
Appendicitis, Suppurative	60	35	95	14	9	23
Appendicitis, Gangrenous	9	—	9	1	—	1
Total	398	111	509	20	9	29

			Deaths		Rate	
			White	Deaths	Rate	
Catarrhal and Recurrent	White	329	5	1.52%		
“ “ “	Col.	76	—	—	—	
		405	5	1.23%		
Suppurative and Gangrenous	White	69	15	21.7 %		
“ “ “	Col.	35	9	29.7 %		
		104	24	23.07%		

Year 1918				DEATHS		
	White	Colored	Total	White	Colored	Total
Appendicitis, Catarrhal	73	24	97	—	2	2
Appendicitis, Recurrent	255	57	312	1	3	4
Appendicitis, Suppurative	43	20	63	13	11	24
Appendicitis, Gangrenous	4	—	4	2	—	2
Total	375	101	476	16	16	32

			Deaths		Rate
Catarrhal and Recurrent	White	328	1		.305%
“ “ “	Col.	81	5		6.17%
			409	6	1.46%
Suppurative and Gangrenous	White	47	15		31.9 %
“ “ “	Col.	20	11		55. %
			67	26	38.8 %

Year 1919				DEATHS		
	White	Colored	Total	White	Colored	Total
Appendicitis, Catarrhal	106	39	145	8	2	10
Appendicitis, Recurrent	210	42	252	1	2	3
Appendicitis, Suppurative	41	25	66	7	7	14
Appendicitis, Gangrenous	11	3	14	5	1	6
Total	368	109	477	21	12	33

			Deaths		Rate
Catarrhal and Recurrent	White	316	9		2.85%
“ “ “	Col.	81	4		5. %
			397	13	4.4 %
Suppurative and Gangrenous	White	52	12		23. %
“ “ “	Col.	28	8		28.6 %
			80	20	25. %

Year 1920				DEATHS		
	White	Colored	Total	White	Colored	Total
Appendicitis, Catarrhal	76	36	112	3	4	7
Appendicitis, Recurrent	354	82	436	2	2	4
Appendicitis, Suppurative	35	24	59	12	7	19
Appendicitis, Gangrenous	12	3	15	2	1	3
Total	477	145	622	19	14	33

			Deaths		Rate	
Catarrhal and Recurrent	White	430	5		1.16%	
“ “ “	Col.	118	6		5.08%	
		548	11		2.	%
Suppurative and Gangrenous	White	47	14		29.8	%
“ “ “	Col.	27	8		29.7	%
		74	22		29.7	%

Year 1921	White	Colored	Total	DEATHS		
				White	Colored	Total
Appendicitis, Catarrhal	57	25	82	2	2	4
Appendicitis, Recurrent	440	131	571	3	3	6
Appendicitis, Suppurative	53	41	94	5	9	14
Appendicitis, Gangrenous	14	6	20	7	5	12
Total	564	203	767	17	19	36

			Deaths		Rate	
Catarrhal and Recurrent	White	497	5		1.	%
“ “ “	Col.	156	5		3.2	%
		653	10		1.53%	
Suppurative and Gangrenous	White	67	12		18.	%
“ “ “	Col.	47	14		30.	%
		114	26		22.8	%

RECAPITULATION.

Appendicitis			Appendicitis		
Catarrhal and Recurrent			Suppurative and Gangrenous		
Year	No. cases	Deaths	No. cases	Deaths	
1912	200	5	49	9	
1913	213	2	44	5	
1914	264	9	57	16	
1915	277	4	96	19	
1916	367	7	66	18	
1917	405	5	104	24	
1918	409	6	67	26	
1919	397	13	80	20	
1920	548	11	74	22	
1921	653	10	114	26	
TOTAL	3733	72	751	185	
Rate	1.9%		Rate	24.62%	

Who is to blame for these figures? Wherein lies the fault? Surgery? Lack of appreciation of the benefits of early surgical intervention on the part of the internist, or lack of knowledge of the seriousness and dangers of this so common disease on the part of the general public?

The lines I am about to quote are so in accordance with my own views, so lucid and accurate, I can hardly realize seven years have elapsed since they were given utterance by the late Dr. John B. Murphy (Murphy's Clinics, June, 1915):

"In looking up recently for the 'Year Book of Surgery' the hospital statistics on the results of operations for appendicitis, what mortality rate do you suppose I found? The average hospital mortality rate is just a little over ten per cent! This includes appendicitis cases of all classes brought to the hospital for operative treatment.

"Is it time to stop talking about appendicitis? No! It is just the time to begin talking about appendicitis, and talking most seriously and emphatically about it. When you know that in our best hospitals better than 98% of all the acute appendicitis cases, including those with abscess and peritonitis, are saved and when you know that scarcely one out of a hundred cases of acute appendicitis cases operated upon during the first 24 hours of the attack is lost, think what the results must be in the other hospitals to make the general average so appalling! These patients did not die because of the operation—do not misunderstand me—they died in spite of it. Procrastination was the cause of death—the almost criminal cause."

Dr. Jere Lawrence Crook, in his masterful Presidential Address, Southern Medical Association, Hot Springs, Ark., November 14-17, 1921, dwelling upon the necessity of early operation and the danger of delay, says:

"In the daily routine of work when I am confronted with patients whose cases are hopeless simply because of delay in presenting themselves for treatment, and when I know that proper instruction from a source in which they have confidence would have caused them to seek aid in time, I feel the burden of responsibility pressing down upon me."

Delay and ignorance! To these two factors alone do I attribute the mortality rate of our great Charity Hospital. Yet Twentieth Century, reading of the human victims placed by Ignorance upon the sacrificial altar of the heathen, shudders, thanking God his is an age of enlightenment and progress.

Sir Berkeley Moynihan, in his "Surgical Essays," says:

"The most formidable and the most frequent of all the acute emergencies in abdominal disease is concerned with the vermiform appendix. I firmly believe that appendicitis is a disease which derives its fiercest activities from the means which are taken to treat

it; that acute spreading peritonitis is rarely, if ever, the result of an untreated disease, and that it is the administration of aperients which transforms a simple disease into one of the most serious type. If the surgeon, when he is called in consultation, hears that a purgative has been given, that alone should, in my judgment, decide him to advise an immediate operation. In children especially there must be no exceptions to this law. To give aperients to children who have a stomach-ache is homicidal, yet so far as I can hear it hardly occurs to a mother or a nurse to do anything but this, the most disastrous thing of all."

These authorities clearly and forcibly answer the questions we have asked. We acquiesce in what they tell us, recognizing the experiences of our daily practice.

To Dr. Crook we owe much for the movement he has started, and I know of no better way of showing our appreciation of his efforts than by becoming his disciples and starting a campaign to educate the people along the lines he has suggested.

In this campaign the Press must be our strongest ally. The voice of the Press is far-reaching and knows no confine: without their valuable assistance we are helpless. If the physician and surgeon must assume part of the responsibility for a mortality rate of 10%, which proper instruction can reduce to 1%, no happier medium than the Press can be found to effectively and forcibly drive our lesson home.

The necessity for a publicity campaign was never more urgent. These figures from our great Charity Hospital which, in a measure, reflect the medical work of the entire State should urge all of us—surgeons, internists and teachers of our medical institutions to utilize the medical as well as the lay press, to carry to all physicians and the general public the fearful responsibility of ignorance and delay; and the great danger of purgation in all forms of acute abdominal diseases, of which appendicitis is the most formidable. To these factors alone can we attribute this astonishingly high mortality rate.

Acute appendicitis is a menace to human life and we *must* dispel the present belief that appendicitis is negligible.

DISCUSSION.

Dr. G. N. G. Stafford (Alexandria): I think the title of Dr. Grafagnino's paper was well taken. "Acute Appendicitis a Surgical Problem." It cannot be anything else. An acute appendix is essentially, primarily and always a surgical problem. I know some of us—not very many, I am glad to say, of late—look on it from a different standpoint, but you cannot make anything else out of it and if you give your patients a square deal you had better look at it from that angle. I know that a great many cases which are treated with rest and ice bags and so forth, will subside, but that appendix, in

my opinion, never becomes normal again. The lumen may be all right, but there are adhesions that always make it a pathological proposition, and therefore it is a surgical matter.

The doctor's statistics were very interesting and ought to be a warning to all of us. That mortality should not be there—there is no excuse for it and it is all our fault that it exists. We are to blame because we “dally” too long. We used to hear a great deal about the time of operation—within so many hours. I read an article some time ago by a Frenchman who recited 1175 appendicitis operations he had done, and he came to the conclusion that the time for operation was as soon as he made the diagnosis—whether ten hours afterwards or ten days afterwards—the appendix should be removed. I believe he is right. He found the percentage of cures did not depend upon the number of hours elapsing since the beginning of the attack, but upon the character of the lesion.

I cannot add to the doctor's paper nor detract from it, but I want to emphasize the good advice he has given us. We know that in acute appendicitis nature does everything in her power to immobilize. Very frequently you find doctors insisting upon assisting nature and they do the opposite, they give purgatives. We should try to get the profession away from that idea. Never give a man a purgative when he has a pain in the “belly” until you find out what is the matter with him. I have seen cases brought into the hospital two or three days or a week after an attack with swollen abdomen and peritonitis, giving a history that they had had salts and castor oil and everything else. We should never give a patient a purgative until we find out what is the matter with him.

Dr. E. D. Martin (New Orleans): I agree with what Dr. Stafford has said, that the minute a diagnosis of appendicitis is made the appendix should come out. Why? We have no idea what is going on in that abdomen. A man who will treat an appendix with an ice bag or anything else when he can get his patient into a hospital for operation is almost criminal. In the last month I operated two cases of ruptured appendix in New Orleans, which had been treated two or three days with ice bags. That is wrong. Remember that 90 per cent of acute cases are an aggravation of chronic cases. What we have to learn to do is to make a diagnosis of the chronic appendix so it can be taken out. That is where mortality comes. We are doing better today, but the thing is to recognize the condition of chronic appendicitis so common today.

The etiology we do not know, but the theory of refrigerated food is advanced and that may be it; but the whole secret is that we must recognize these cases in the chronic stage because by every attack the patient is weakened. Just this last week I was called to see a woman who had never known she had an attack of appendicitis, yet she had a high temperature and her pulse was 98. She said about an hour before she began to vomit—no rigidity, but pain on deep pressure although not severe. I made an examination and found 20,000 leucocytes and 86 polys. She was removed to the hospital, the appendix taken out, it ruptured while we were manipulating it. She had been suffering from chronic appendicitis for years and thought it was indigestion. Let me impress upon you that it is not the acute appendix but the chronic appendix which afterwards becomes acute that we need watch.

Dr. W. S. Rutledge (Ruston): I recently had a chronic case that had been overlooked. The patient came to the office complaining of cramps in the left side. I asked him what he had been eating and he said pork and fish and so forth. I washed his stomach out and he went home, but that night he came in again complaining of pain. I thought it was indigestion and nothing serious, but I told him to

stay in bed and keep quiet. There was no sign of pain in the appendiceal region—all the pain was on the left side. I did not see him again until about a week later. He was still complaining, but there was no rigidity and the leucocytes were 6500. That was on Saturday, and on Sunday morning he had general peritonitis. I rushed him to the hospital and operated without an examination and the surgeon found a gangrenous appendix. Do you call that easy diagnosis? It is not easy diagnosis. I say it is not a simple thing. I have enjoyed the paper, but it is not an easy thing to diagnose.

Dr. Peter B. Salatic (New Orleans): We talk about the education of doctors along the line of not giving purgatives. I think the doctors do not give purgatives now so much, but it is the people we have to educate. Another point about which we want to educate the people is that the pain of appendicitis does not necessarily start in the appendix. More often it starts in the solar plexus or above the umbilicus.

As a rule we find a bad appendix is heavy and in about 80 per cent of cases it drops back. As a rule I prefer a Battle incision. After making the incision I try to exclude the general cavity as much as possible. I do this by taking a retractor, about two inches wide, and putting it into the wound and pulling it out as much as possible and then after that I raise it gently and put in the gauze packs before I attempt to look for the appendix. After that I go down to the side of the wall, swab out the pus and then take the appendix out.

Another point about purgatives after an operation: I think a good many of us have lost patients by giving a purge too soon after operation, especially where there is a general peritonitis. If you wait four or five days the bowels will move themselves without any enema.

Dr. Hilliard E. Miller: I feel sure that the entire society feels indebted to Dr. Graffagnino for his excellent paper and tabulation of cases of appendicitis at Charity Hospital. His mortality percentage in the cases of ruptured and gangrenous appendices, appears astounding, and I am sure will be a future lesson to all of us present. Much has been said of the surgery of the appendix in this paper and its discussion, but there is one condition about which I wish to state, that I believe that there is too much surgery done. I refer here to the localized pus collections, attending ruptured and gangrenous appendices. In such conditions, it is very hazardous to do more than open pus pockets and drain. If the appendix presents itself and permits of easy removal, it should be removed. However, if an extensive search has to be made to locate the appendix, with the consequent disturbance of exudates and the natural walling off processes, it is best to simply drain, and leave the appendix in situ, as it has been shown that only about 10% of these cases ever give future attacks of appendiceal disturbances. If such should happen, one can go back at a more opportune time and remove the appendix under conditions which are much more favorable for the complete and ultimate recovery of the patient.

Dr. C. P. Gray (Monroe): When we look at these figures and realize what they mean, it is astounding. The rate of mortality in appendicitis is entirely too high. We physicians and surgeons are partially guilty of this and should face the issue with an acknowledgment of this guilt. It is true that the public as a whole have not been educated up to the stage of having the appendix removed at once in every case of acute appendicitis. Why? Largely because of the dilly-dallying of the doctor who first sees the patient. If we will assert ourselves with a degree of positiveness which will impress the patient that he has an acute surgical lesion which menaces his

life, eight out of every ten will submit to an early operation. As a whole we do not do this. The attitude of the patient will depend upon the attitude of the doctor. In other words, if we advise an early operation in such a manner as to convey to the patient any doubt of the advisability of such, naturally he will be doubtful; but if we assert ourselves and state positively that the appendix should be removed at once and explain the danger of delay, eight out of every ten will submit to an early operation.

Briefly I want to mention one other factor which enters into and is a cause of this high rate of mortality. I mention this with some fear and trembling and full well realize it is encroaching on dangerous ground. It is the attempted removal of the suppurative and ruptured appendix where we have a walled-off abscess or the formation of firm adhesions which act as a barrier to the spread of infection to the general abdominal cavity. In these cases my experience has been that it is far better to simply incise, mop out gently and place in drainage. Do not break up the protective adhesions trying to remove the appendix, but assist nature by draining and wait until later to remove the appendix.

Dr. D. O. Willis: To go back to the main point of this paper—the surgical condition. I am not a surgeon and do not operate except occasionally when I find a case of appendicitis that I think is a pus case, when I think it has already ruptured or is ready to rupture. Then I put them on a dining table or bed and open that place and let the pus out. But I want to make this point: I believe it is a tendency on the part of a portion of the profession to treat appendicitis more than inability to make a diagnosis that is responsible for so many of these cases going to pus formation and perhaps rupture and general peritonitis. I have been in the profession a long while and have had lots of cases operated for appendicitis. The profession and the public have knocked me at times about running every patient off for operation, but I always feel safer when I can get my patient to be operated on even though there is a possibility that it is not absolutely necessary. I can say this, that in the eighteen or twenty years I have been in the profession I have only had two cases of appendicitis rupture. One was due to the fact that a train failed to stop at a flag station to pick up the patient, which delayed him twelve hours in getting to the hospital. Unfortunately only one got well. The other was due to delay on the part of the patient—a little girl who was to be in a school entertainment and refused to admit that she was sick until it was too late. I have had no trouble in making a diagnosis of appendicitis before it is dangerous.

Dr. P. Craffagnino (closing): I really have nothing to add, and I want to thank the gentlemen for their kind discussion. I purposely left out the question of diagnosis and of operative technique, realizing that the subject was so vast that it would practically fill our whole program.

THE IMPORTANCE OF THE HISTORY IN THE DIAGNOSIS OF TUBAL PREGNANCY.*

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In view of the fact that local palpable pelvic evidence is often lacking altogether and when present is not conclusive, the history is conceded to be of first importance in the diagnosis of this condition. Clinically, our cases of ectopic pregnancy of the tubal variety can be divided into two groups: first, those cases in which neither tubal rupture nor abortion from the fimbriated extremity of the tube has occurred; second, those in which one of these terminations has taken place. The diagnosis before the occurrence of rupture of the tube or of beginning tubal abortion is extremely difficult and when made is generally a fortunate guess rather than a conclusion justified by the data in hand. The reasons for this are extremely simple. If the patient, previously regular, has missed a period, she naturally considers herself pregnant, and does not, as a rule, consult her physician. The classical symptoms of tubal pregnancy, viz., pain and uterine hemorrhage, very seldom make their appearance before tubal abortion begins or tubal rupture occurs. Should these symptoms be present in this early stage, they are insignificant in character, and are hardly noticed by the patient.

Hence, the patient is very seldom seen until the occurrence of one of the two most common terminations of the condition, namely, tubal rupture or abortion of the ovum through the fimbriated extremity of the tube; of these, the latter is, in my experience, much more common, though authorities differ greatly on this point. The other possible eventualities, such as secondary abdominal pregnancy, lithopædon formation, tubo-ovarian or tubo-abdominal pregnancy, mummification, resorption of the ovum, formation of a tubal mole, suppuration of an hematocele or of the fetal body, etc., are not common and when encountered are generally traceable to the non-recognition of the condition in its incipency. So I shall confine myself to the history and symptomatology of tubal rupture and tubal abortion. Interstitial pregnancy presents practically the same clinical course, and primary

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ovarian pregnancy is so rare that it is hardly necessary to consider it.

In the average case of frank tubal rupture of the so called "tragic" type, the diagnosis is, as a rule, easy. The patient generally gives a history of a missed or a delayed or a scanty period, though often she has apparently menstruated regularly and normally. She can frequently recall one or more mild transient attacks of pelvic pain, usually unilateral, to which she has paid no attention; there has occurred slight bleeding at irregular intervals. Then comes a sudden attack of violent pelvic pain, of a cramping character, which is usually unilateral; this is followed by the symptoms of shock and collapse, such as fainting, air-hunger, thirst, pallor and all the other symptoms indicative of free bleeding. The condition is rapidly progressive; I have watched the pulse go steadily up and the hemaglobin go progressively down while waiting for a few minutes for an ambulance to transport the patient to the hospital. Such a case presents little difficulty in diagnosis. Another chain of symptoms and signs occasionally found in tubal rupture is described by Schumann, who states that this type of reaction (which he calls "sthenic," in contrast to the other or "asthenic" variety) is not properly stressed in the literature, though Schumann holds that it is of very common occurrence. Here the history is as above outlined, but the collapse, weak pulse, pallor, and other signs of frank hemorrhage do not occur, though much free blood may be found in the abdomen at operation. The diagnosis, according to this authority, rests on the history and on the fact that extreme tenderness is elicited on bimanual examination. The abdomen is distended and is very tender on pressure.

Tubal abortion, or the expulsion of the ovum from the fimbriated end of the tube into the pelvic cavity, is much more difficult to diagnose. The ovum may be completely expelled from the tube, or it may be found protruding from the end of the tube at operation. The symptomatology of both varieties is the same, and the history is all important. Many patients give a history of a pelvic infection in years gone by, either puerperal, post-abortal, or gonorrhoeal. Others have undergone pelvic operations. Many have had children, but none for several years; the so-called "relative" sterility. A much smaller number give a history of absolute sterility. These are suggestive data, common

to all ectopic cases. In the history of the present trouble a missed or a delayed period is the rule, but it is by no means invariable; the patient may have been perfectly regular. The main diagnostic point is *pain*, and the character of the pain is an extremely important detail. The diagnosis may depend upon this point alone. The patient will state that she was suddenly seized with a fairly severe unilateral pelvic pain while performing her usual duties. This pain is much worse than the indefinite preliminary pains, is more pronounced than the pain of uterine abortion, but it is not nearly so severe as the pain of rupture of the tube. It is generally followed almost immediately by marked faintness and weakness, and often by actual fainting. The patient rapidly rallies, but notices a dull, more or less constant pain thereafter. Bleeding, not profuse, nearly always follows the attack of pain after a variable interval; this is a valuable point in differentiating the condition from uterine abortion, where the bleeding sometimes appears *before* the pain, often *with* the pain, but very seldom delays its first appearance until *after* the pain. Pain and moderate bleeding may recur at irregular intervals for several weeks; this is another point of importance in differentiating the condition from uterine abortion, where the bleeding is fairly steady and the pain of little moment. Some patients complain of rectal or vesical irritability, but these are not constant symptoms. Of 186 cases of ectopic pregnancy at the Charity Hospital, studied by Dr. Graffagnino, pain was the main symptom in 66%, while bleeding was noted in 33%. Of 84 cases in which the preoperative diagnosis was recorded, it was correct in 33, or 44%. The percentage of correct diagnosis is higher at present, simply because we are on the watch for these cases.

Often the patient is not seen until several weeks after the tubal abortion has begun, and a mass in one tubo-ovarian region or in the cul-de-sac of Douglas is found. All possible laboratory and clinical data should be accumulated, but let me reiterate that a carefully taken and correctly interpreted history is of the greatest importance. A few examples may serve to emphasize this. I operated upon a colored woman in June, 1918, for a right tubal pregnancy at the Charity Hospital. She returned in March, 1920, with a left tubal pregnancy which had aborted, and there was a large mass of old and fresh blood in the cul-de-sac. One

member of the staff made a diagnosis of incarcerated retroverted pregnant uterus, but an accurate history pointed to the diagnosis of tubal pregnancy, which was confirmed at operation. In another case, no mass could be felt, even under anesthesia, but the history was so typical that the abdomen was opened and a small right tubal pregnancy, with beginning abortion and very little bleeding, was found. Another patient was finally diagnosed as a case of incomplete uterine abortion and was curetted, though she insisted that her symptoms were very different from those of a uterine abortion two years before, and that the pain this time was much more severe. No mass was felt, even under anesthesia. It was found necessary to open the abdomen a few weeks later, on account of the persistence of her symptoms, and to remove the pregnant tube which was then found. In another case, a diagnosis of pelvic abscess was first made. The mass increased in size and the uterus rode up on it and toward the left, where it was readily palpated through the thin abdominal wall, and was diagnosed as a nodule of the large uterine fibroid, which the second observer thought the mass to be. A careful history cleared up the matter, and a laparotomy settled the diagnosis of ectopic pregnancy. Many other similar cases could be cited. Recently, however, I interpreted a history as pointing to the diagnosis of extra-uterine gestation, but others of the staff disagreed, and a pus collection was found at operation. In this case, I feel that the history was not of the best and that the interpretation was faulty.

Let me stress, therefore, the importance of an accurate history in all cases where there is the least possibility of an ectopic pregnancy, such, for example, as a case of supposed uterine abortion in which no fetus or placenta has been seen. Especial importance should be attached to the character of the pain, as above outlined. It is the consensus of opinion that, with a very occasional exception, these patients should be operated upon as soon as the diagnosis is made, and a carefully taken history, correctly interpreted, is the most valuable aid in establishing this diagnosis.

**FURTHER (ORIGINAL) OBSERVATIONS WITH THE
X-RAY UPON THE APPENDIX.***

By **DRS. ADOLPH HENRIQUES and LEON J. MENVILLE**, Department of
Medicine, Tulane University.

Development of the study of the gastro-intestinal tract with the X-ray has included the region of the terminal ileum, cæcum and the appendix. Frequent opportunity for the observation of this region has been afforded us in the past ten years. Some eight years ago we had developed our studies of the appendix to such a point that we drew attention to the appendix as a focus of intestinal intoxication, apart from the rest of the digestive tract, due to the retention within the lumen of the appendix of food remnants and their subsequent decomposition and absorption. This work has been confirmed, clinically, by the numerous cases in which relief was afforded by the surgical removal of the appendix after attempts to detoxicate the patients by purgation, diet, or both, had failed. We have observed cases in which the appendix alone remained filled with the remnants of an opaque meal for days and even a week or longer after the rest of the intestinal tract was emptied, even after the use of active purgatives.

The impossibility of putting our hands upon one or more chemical substances which we can definitely say are directly responsible for this or that set of symptoms is evident when we realize that the twenty-odd amino-acids, into which our proteins are split, are capable of forming several quadrillion combinations. For the present and for a long time to come we are obliged to rely upon empirical results with regard to intestinal intoxication.

We were of the opinion, for a number of years, that the appendix filled as a result of anti-peristalsis in the colon and not as a result of gravity. On account of the dependent position of the cæcum and appendix the natural assumption would be that the appendix fills by gravity. However, during the past five years we have observed a series of five cases in which the cæcum and with it the appendix were inverted so that these organs were upside down, occupying a position in which gravity could play no part in filling the appendix. Despite this inverted position, the

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appendix was filled. Hence we feel justified in making the claim that the appendix fills by anti-peristalsis.

Anti-peristalsis occurs normally in the colon and nowhere else in the digestive tract except as a result of disease, usually of an obstructive type. In the colon both peristalsis and anti-peristalsis take place, the anti-peristalsis or reversed peristalsis being of a type in which the muscular contractions are less marked and the retrograde movements of the colonic contents less than with peristalsis. Anti-peristalsis serves the purpose of the better mixing of the food remnants and brings the contents into contact with the wall of the colon to insure better absorption. Under certain conditions from an increased innervation on the part of the vagus or from a decrease on the part of the sympathetic, anti-peristalsis is increased.

The question arises: If the appendix fills by anti-peristalsis, how does it empty? The appendix possesses a peristaltic action of its own and emptying occurs as a result of muscular action by the appendix. Normally, the appendix should empty about the same time as the adjacent cæcum. If we observe retention of the opaque meal in the lumen of the appendix after the cæcum is emptied we can conclude but one of two things, viz.: that the tone of the musculature is too weak, primarily, or that the musculature has been weakened from disease of the walls. The latter conclusion is strengthened by the presence of an associated spastic condition of the walls of the colon and by the presence of a fixed or kinked appendix, also by a point of tenderness over the appendix when palpated under the fluoroscope with one finger.

Both the cæcum and the appendix vary so in their position within the abdomen, that unless one visualizes these organs under the fluoroscope ordinary palpation offers frequent occasion for error.

Aside from the fact that decomposition and absorption of the stagnant contents of the appendix may serve as a focus of intestinal intoxication, we have stressed the delay in emptying of the appendix by reason of the fact that pathologists are of the opinion that appendicitis usually begins in the mucosa. One can readily see how an appendix filled with myriads of bacteria from the cæcum together with putrefying food remnants serving as culture media, both of them prevented from leaving the

appendix as a result of delayed emptying, acts as a culture tube at body temperature and how easily inflammation of the adjacent mucosa can occur.

While realizing the potentialities of any tissue for disease, we have come to regard the appendix which shows delayed emptying as a so-called "potential appendix" even if unaccompanied by evidences, recognizable Roentgenoscopically, of pre-existing inflammation, and we believe that in the great majority of these cases that it is no longer a question of: Will this appendix become acutely involved at some future date? but of: How soon will it become acutely involved?

The acute appendix should not be X-rayed.

DIAGNOSIS AND TREATMENT OF FLAT FOOT.*

By **EDWARD S. HATCH, M.D., F.A.C.S.,** Chief Orthopedic Surgeon, Touro Infirmary, Consulting Orthopedic Surgeon, United States Public Health Service and New Orleans Dispensary for Women and Children, New Orleans, La.

One has only to look into the shoe store windows or listen to the tales of foot trouble, fancied or real, from his friends to realize how important flat foot is. A very large number of people are today wearing Orthopedic appliances or specially designed shoes. There are shoes with stiff shanks or counters, and some shoes are made with so-called arch supports in them, and there are shoes with flexible shanks, while others by the shape of the shoes, inflare or outflare, so-called, or a special design of heel, alter the position of weight bearing.

The greater number of cases of foot trouble are mild in character and people choose their shoes or plates without medical advice; they are apt to buy what their friends use or something that pleases their fancy and often with a measure of success. Many stores have a week each year during which time they advise their patrons that a specialist in foot troubles will give free advice to all sufferers. This means simply that some wide awake manufacturer is advertising a special shoe or foot appliance.

With the dictum of Strinsky, I heartily agree: "If a law prohibiting the sale of plates for fallen arches were passed and the sale restricted to the making of plates on the prescription of

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physicians with experience in foot troubles, it 'would be a boon to suffering mankind.'"

The advocates of each type of shoe feel that their particular shoe is good for *all* cases of foot trouble and this pernicious advice causes people to go from one store to another in hope of relief. The truth is of course that some cases need one kind of treatment and others entirely different treatment.

In order to understand how to treat flat foot we must study in some detail the underlying anatomical causes of this condition. Much has been written about the anatomy of flat foot and just how movement takes place between the bones of the tarsus and metatarsus. The astragalus transmits the body weight. Drs. Lovett and Cotton have shown that most of the pronation takes place in the calcaneo-astragaloid joint. The astragalus rotates on the dome shaped calcaneal facet and slides downward. There is some abduction of the front part of the foot at the medio-tarsal joint. In severe cases the scaphoid and cuboid are practically dislocated.

Some authors feel that the difference between the normal balance position and the pronated position does not depend on ligaments but on muscular action alone; but certainly both play a part. If the calcaneo navicular, deltoid or interosseus ligaments are stretched or weakened there is a tendency towards the pronated position.

The muscles whose integrity affects pronation are the tibialis posticus, tibialis anticus, flexor longus hallucis, flexor brevis digitorum, and the peroneus longus and brevis.

Therefore while flat foot is essentially a static defect, the general condition of the patient must be given careful consideration as anything that lowers the vitality will increase the local disability.

All cases fall naturally into two main classes: flexible flat feet and rigid flat feet, by far the greater number of cases being in the flexible class. This class can be subdivided as to causation into

1. Local:

- a.—poor shoes;
- b.—Genu Valgum;
- c.—short Tendo Achilles;
- d.—Arthritis—traumatic—infectious.

2. Constitutional:

- a.—infected tonsils;
- b.—bad teeth;
- c.—general infections;
- d.—syphilis—Argyll Robertson pupil Romberg sign;
- e.—chronic gonorrhea;
- f.—obesity.

We cannot hope for permanent results from our treatment if we neglect in any way the constitutional causes of the condition in question. A patient who applies for relief for foot pain may have any one of the above mentioned conditions or a combination of them and if we simply relieve the apparent local cause in a patient suffering from chronic gonorrhea or diseased tonsils we are not properly treating our patient. Flat foot may result from marked obesity and we should take care of this condition and also teach our patients how to stand and walk correctly. I shall pass over the treatment of these constitutional defects by simply calling attention to that phase of our problem.

We come now to the treatment of the local or static defects—poor shoes usually compress the front of the foot, this part of the foot from compression and resulting weakness cannot adapt itself when greater weight is thrown upon the foot, and a twist takes place. Such people stand and walk with the feet turned out; in a position of potential strain.

In our routine examination we quite frequently find that the patients cannot dorsally flex the feet beyond or quite to a right angle due to a short tendo achilles. Dr. Rugh states that in an examination of 50,000 soldiers, 12% had short heel cords, and that in an examination of a large number of nurses 30% had short heel cords. He attributes that difference to the fact that women wear high heels.

This means that from habitually using high heels they do not dorsally flex the feet in walking. If one of these patients suddenly begins to wear low heels she suffers. Usually these contracted heel cords can be stretched very well by a shoe designed by Dr. Newton Shaffer. I have used this shoe for several years and very rarely have to resort to tenotomy for this condition, but this contraction must be overcome before we can relieve our patients. Then we have the class of arthritis of the tarsus and

metatarsus either traumatic as following Potts' fracture, or infectious, as from infected teeth.

As stated above the flexible cases comprise much the larger number of those referred for treatment, and doctors disagree on the best method to use for their relief. One group of men feel that plates should never be used but that flexible shank shoes, strapping, exercises and stimulating muscular treatment, massage, etc., will suffice. In the very mild cases we can often relieve by this method, but I feel that Lovett is right when he says: "Do not use exercises or flexible shank shoes to relieve tired overstrained muscles, use heels and plates properly fitted, and may be high heel for awhile." For example it has been my custom for the last fifteen years, given a case of flexible static flat foot, to relieve the tired muscles at once by adhesive plaster strapping, after taking a plaster model of the foot. The strapping usually gives marked relief. On the second visit this patient is fitted with a flexible tempered light weight steel plate, usually made of 22 gauge stock and the adhesive strapping re-applied. Later a woven bandage is substituted for the strapping and daily alternate hot and cold showers and massage are used.

When the muscle ache and soreness have disappeared exercises are started and the patient goes on to recovery. In about 10 to 14 days the plates are raised slightly and finished. These plates are in no sense a fixation apparatus and are not intended to be worn indefinitely. *The patients being told at the outset* that at least 50% of the cure rests with them, in making their muscles do the work that nature intended.

In rigid feet the procedure is quite different except in cases of very beginning rigidity when repeated strappings, bandaging, and balanced heels, followed later by flexible plates, will suffice.

In the real rigid cases we must first hunt for the infection provided the rigidity is due to an arthritis; but in many cases we fail to find the cause and are forced to treat only the result—a rigid foot. It is an axiom that a patient with a rigid flat foot or valgus cannot wear a plate with comfort or relief. The rigidity must be relieved first by ether manipulation and over-correction in plaster. The patient then walking in these plaster boots. If we find a marked spasm in the peroneus longus and brevis muscles a section of about 1½ inches of these tendons

together with their sheaths is resected after the method of Sir Robert Jones. This is an excellent procedure. After walking in corrective plasters for 2 or 3 weeks these patients are ready for adhesive plaster strapping and properly designed plates. These plates are made of slightly heavier metal than those before mentioned, usually 18 gauge and with anterior outer, and posterior inner flanges, to resist pronation and toeing out. In all cases both flexible and rigid, proper shoes must be insisted upon.

A very painful and distressing type of foot trouble is a relaxation of the anterior arch, the so-called Morton's metatarsalgia. These patients either complain of a very tired ache in the fore foot or of distinct cramps usually referred to the base of the fourth toe. Callouses are found under the metatarsal heads.

Here again the strengthening of the normal muscular supports is the object sought. These cases are given pads placed just behind the metatarsal heads either held in place with adhesive strapping or attached to an insole or a 22 gauge plate is made, shaped like a spoon with the bowl of the spoon behind the heads of the metatarsals. Exercises such as picking up marbles with the toes and alternate hot and cold showers hasten the cure.

IN CONCLUSION.

1. Do not advise patients to get shoes which some one may consider a panacea for foot troubles.
2. Do not advise patients to buy store arches.
3. Do not put flexible shank shoes on patients with tired overstrained muscles.
4. Examine carefully all patients complaining of painful feet. The constitutional condition counts.
5. Make clear to your patients that their careful observance of your directions as to exercises, massage, etc., is a very important part of the treatment.

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DISCUSSION.

Dr. J. T. O'Ferrall (New Orleans): Dr. Hatch has mentioned in his excellent paper the fact that doctors do not agree on the proper treatment for flat foot, and he divides them into two classes—those who believe in plates or rigid arches, and those who believe in exercise and flexible shank shoes. I fall into a class between these two. I believe in a reasonable treatment, a treatment that includes exercise and the alteration of the shoe, certainly not with a flexible shank. A flexible shank put on a patient with already sick muscles certainly would not relieve him; on the contrary, it would make him worse. A great deal of strain takes place in the tarso-metatarsal joint—a strain between the hind foot and the fore foot. In my opinion, this foot should be made into one unit by means of a stiffened shank at the same time correcting the weight-bearing by altering the shoe, largely by inserting a wedge between the soles which lifts the foot on the inner side. Then they should be given proper exercise after the acute strain has been relieved. My great objection to plates is that they are quite expensive, they break readily, they ruin the stocking from rust, and they cut through the sole of the shoe very often, and people who are given plates, especially adults, it is very difficult to get them away from them. They do not feel it is necessary to take exercise as long as they have a crutch to walk on. I believe also that the constant pressure of the steel against the arch of the foot lessens the resistance of the muscles rather than develops them. Another objection is that people cannot wear low quartered shoes with plates. It is very difficult to get women to wear a plate because they cannot wear a low shoe. So my plan is to alter the shoe so it will permit them to wear a pump made on a medium last, and I find I can control the situation much better in that way.

Dr. E. S. Hatch (closing): I would like to say that of course, as I mentioned in my paper, I decry any stiffened shank that limits the motion of the muscles—I thought I brought that out pretty carefully. A 22-gauge plate is very thin and simply acts as a spring and it is easy to model these plates so that they do not slip at the heel and the patient can wear low shoes. But do not go away with the idea that every flat foot needs a plate. It is a question of treating each case by itself. The whole thing is to treat each patient as an individual, and not say, "Get this plate," or "that shoe."

THE DIAGNOSIS OF FOREIGN BODIES IN THE BRONCHI.*

By R. C. LYNCH, M.D.

My reasons for presenting this subject to you are: first, it falls to the lot of but few men in general practice to see a sufficient number of the cases to develop for himself a symptom syndrome upon which he can depend; secondly, because so many of the cases finally reaching my service should have received attention much earlier if a proper diagnosis had been made.

By far the greatest number of cases are accidental and due to carelessness and occur in children up to ten years of age, though one sees intentional cases now and then and particularly in the insane, and rarely with suicidal intent.

Foreign bodies may lodge in any part of the air way, from the laryngeal face of the epiglottis to the periphery of the bronchial tree—and their lodgment necessarily depends upon the nature, size, shape, consistency and manner of introduction.

For purposes of study and discussion we divide the subject into two classes: (1) the acute cases in which the accident has only recently occurred; (2) the long retained or chronic type in which the foreign body has been in site for weeks or months or even years.

Larynx.—Foreign bodies which lodge in the Larynx between or above the vocal cords give rise to such violent symptoms that usually the case is presented to the doctor with the diagnosis established. If immediate death does not ensue from suffocation due to a complete laryngeal block, then there will occur hoarseness to the degree of aphonia, to be followed by hoarse or croupy cough with marked increased secretion both from the trachea and oesophagus and also from the salivary glands. If the intruder be sharp pointed the mucous may be bloodstained. Sand burs and cockleburs give rise to marked traumatism, pain aphonia and dysphagia because the act of swallowing even is painful. I have only seen two foreign bodies lodged in the larynx which were retained for any length of time. One of these was a piece of glass which was inhaled while drinking soda water. At first there was violent spasm, cough, complete aphonia and quite free bleeding. These symptoms gradually subsided and it was thought that the foreign body had been coughed out, but hoarseness con-

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tinued for nearly a year, at which time I saw her and found a swollen and fixed left arytenoid and vocal cord. Under suspension I removed from the ventricle of the Larynx a triangular sharp pointed piece of thin glass. The symptoms promptly subsided and in the course of time the voice returned to normal.

Foreign bodies which find lodgment in the tracheo-bronchial tree will give rise to a series of symptoms in common depending on the characteristics of the invader and, depending on their final placement, will give symptoms more or less characteristic of the particular location. The usual history is about as follows: A child (and about 87% of the cases occur in infants and children to 10 years of age) while at play or seated on the floor will be suddenly seized with a violent choking and coughing spell and will be more or less cyanosed, and after this paroxysm is over may resume its play without further discomfort. Or more usually the baby is near by and is given by mother or other member of the family some peanuts or kernels of corn or watermelon seeds to play with; the mother notices that it has put some of these in its mouth and makes a grab or a rush to recover them. The baby's first response is a deep inspiration and one or more of the contents of its mouth finds its way into the trachea or bronchi with the symptoms as outlined above.

With the recovery from the first paroxysm no further symptoms occur and the incident may be overlooked for as long as two to four days to as many weeks or even months when the secondary phenomena occur which I will speak of later. As a rule however when play is resumed another spasm will occur as violent as the first and the child will even show apprehension upon the least movement having learned that these paroxysms of cough and suffocation occur at this time. Increased secretion, as indicated by rales and palpable fremitus and wheezing, occur with increased secretion and expectoration which after a short time is bloodstained. Temperature usually follows and in some instances reaches 104, and occasionally a convulsion may occur. These symptoms are characteristic of the invasion of a foreign body into the airway and they will continue, especially if the foreign body is floating or loose in the trachea or is too large to find lodgment in one or the other bronchus. If loose in the trachea, in addition to the foregoing, one will hear the tracheal click produced by the foreign body striking the under surface

of the vocal cords, and this click once appreciated can be heard some distance from the patient with or without the aid of a stethoscope, and the wheeze which resembles asthma and can be appreciated by the stethoscope near the open mouth and even when standing near the patient.

When out of a clear sky there occurs choking cough, cyanosis, excessive secretion as indicated by palpable and audible fremitus or wheezing and the secretion coughed out is bloodstained, whether or not temperature follows, and even if this paroxysm is hardly repeated, this represents in an infant or child an invasion of the air way by a foreign body and should demand immediate Bronchoscopy, for this procedure in experienced hands is practically without danger, can be done with or without anaesthesia and has practically no contra indications, and surely it bears practically no proportion to the dangers which will follow an undiagnosed foreign body in the airway and more particularly if this foreign body be a peanut, grass head or the like which will undoubtedly later produce pneumonia of the septic type and probably death.

If the foreign body is small enough to enter the right or left main bronchus, is metallic or crystal, is smooth and stays put, all symptoms after first paroxysm may subside and your patient will be presented looking, feeling and acting perfectly well, and I must admit you can hardly be blamed for sending the patient away either with the assurance that no foreign body has been inhaled or that as usual you scoff at the idea of such a thing—and yet the initial history is as clear cut as I could possibly make it for you.

If the main stem bronchus is totally blocked, and you will do the patient the honor to examine him carefully, and I say this not sarcastically but because it is brought so forcibly home in my experience with these cases, you will find marked diminution in the respiratory movement on the blocked side, absence of voice sounds, dull or flat percussion note and a few coarse rales about the fourth interspace from two to two and a half inches from the middle line; above this normal breathing and over the unblocked side rather increased breathing sounds. As time goes on and moisture increases and cough begins more rales are heard and the unblocked lung exhibits numerous coarse rales

all over. If the corking is incomplete as would occur in flat objects as watermelon seeds, buttons, pieces of tin, beauty pins and the like breath sounds on the affected side do not differ from those on the unaffected side, and if metallic, crystal, china and non-obstructive the symptoms are practically nil for a long time, usually six months or more. Please remember that even though a foreign body completely block the main bronchus say of the right lung, dyspnoea need not follow and especially if the patient is quiet, for the left lung will take care of all his needs under these circumstances.

In the peanut cases particularly will there be set up in short time the symptoms of an acute diffuse bronchitis with high temperature, and as the lower portion of the lung fills with secretion, dullness and even flatness on percussion will be found and the proverbial pneumonia diagnosis follow. What is thus diagnosed as pneumonia can frequently be cured in twelve to twenty-four hours by removal of the intruder and emptying the lung by a proper suction apparatus and canula.

An X-ray should be taken in every case even though the foreign body will cast no shadow for the picture will usually indicate the point of lodgment. If the right bronchus is securely corked and secretion has invaded the left lung, the ray would show the latter quite cloudy with the diseased side very clear because of the partial emphysema induced by the lodgment of the body; where the right lung begins to fill with secretion the ray will show this as a triangular curtain lying below the level of the foreign body, and in the case of those materials which will cast a shadow the object will be seen, but you must remember not to rely on only an anterior-posterior view but diagonal ones as well should be taken.

If now as in the case of tacks, collar buttons, screws, staples, pieces of tin and the like find lodgment, the first symptom group has been passed and the patient will remain in a quiescent state say from two weeks to six months or more, when there will develop a second set of symptoms which are harder to diagnose, and in many instances the final diagnosis is purely accidental. As the foreign body attempts to work its way to the periphery there will occur erosion of the mucous membrane even to the point of cartilage necrosis and perforation of the bronchus, or formation of abscess or become encysted in scar tissue. With the former

there will be the symptom group of a typical sepsis of mild type, with cough, expectoration of mucous, usually becoming more profuse, more purulent and more offensive and finally blood tinged and even hemorrhage. The sputa will show a typical purulent bacterial flora with no Tubercle Bacilli but every other organism usually found. Loss of weight, low temperature, cough, expectoration, bloody at times, offensive most of the time, rales in the lung and usually some dullness speak so strongly for tuberculosis that this is the usual diagnosis; though there may occur paroxysms which will represent a condition resembling pneumonia. One of my carpet tacks cases had such severe paroxysms that finally the doctor sent her down in desperation for she would hardly recover from one period before another ensued. The X-ray and Bronchoscopic extraction cured her.

Clubbed fingers, loss of hair, dry skin, emaciation and foul breath make you suspicious, especially when the sputum is negative for Tubercle Bacilli. So long as the ciliated epithelium is unimpaired and is able to provide drainage from the smaller bronchioles and there is no obstruction to drainage, acute inflammations are improbable. Lesions which are confined to the upper lobe are rarely found in foreign body cases.

While in these chronic long retained foreign body cases it is impossible to accurately lay down a rule to go by, I cannot stress too strongly that, in all cases of unilateral bronchitis or lung abscess of obscure origin, you consider in your differential diagnosis the possibility of a foreign body and that careful examination should be insisted upon.

DISCUSSION.

Dr. Homer Dupuy (New Orleans): It would be presumption on my part to attempt to add anything to Dr. Lynch's masterly review of the subject. I would like, however, for the benefit of this audience to bring out a point which we should not forget, and that is the remarkable tolerance of the laryngo-tracheal tract for foreign bodies, especially after they pass the larynx and trachea. In other words, a foreign body below the trachea at first makes a condition subjective and objective, but after a while these parts are remarkably tolerant to the presence of a foreign body, and therefore I wish to speak of that group of cases in which the foreign body is so small that it will pass the tracheal surface and reach the right bronchus and yet not cause complete obstruction. The coughing you will expect is frequently absent. Of course, there is a history of a paroxysm of coughing, but that passes away and we are misled by this history. The coughing is so slight that it escapes attention. There may be even in that group of cases a history of recurrent, slight dyspnoea, but often that is misinterpreted. You think the child might have had croup. The group that has given me the most trouble is this very group where the foreign body is not sufficiently large to cause

obstruction, and therefore the symptoms are so slight that the patient is brought only because of an obscure history. At the time of the examination the symptoms are so slight as to not even suggest the presence of a foreign body—say we are dealing with a foreign body of organic character where the X-ray is negative. As Dr. Lynch has emphasized, unless we remove the foreign body there are only two possible end results. One is the incident of expulsion of the foreign body, and the other is its retention with pulmonary abscess. Therefore, it seems to me very important that we emphasize two points—the remarkable tolerance of the lower respiratory tract for foreign bodies, and therefore, the history of no continuous coughing does not mean that there is no foreign body. And again, the absence often of recurrent dyspnoea.

Dr. W. B. Hunter (Coushatta): A case came to me about two months ago with a history of having swallowed a grain of corn. I told them I thought it had gone down the trachea and there was no chance for me to remove it, but I examined the patient as best I could. There was no history of cough. I thought it might possibly have lodged somewhere in the pharynx where I could see. I decided to give this child a dose of syrup of ipecac, thinking that vomiting might remove the grain of corn. The child vomited in fifteen or twenty minutes what appeared to be half of a burned cigarette. I told the parents that I would advise them to take the child to a throat man. The child was carried to Shreveport and afterwards to New Orleans. The grain of corn was found. It may be possible that Dr. Lynch saw this case and removed the grain of corn.

Dr. S. M. Blackshear (New Orleans): I had a case of a child who swallowed a collar button and the skiagram looked as though it was in the larynx. On account of the proximity of the esophagus and trachea, foreign bodies located in the esophagus oftentimes create a little irritation of the trachea and cause a cough. This foreign body caused a cough and I was called to see the case at the Charity Hospital. They had a fluoroscopic examination made and the X-ray man said it was in the trachea. I did a tracheo-bronchoscopy, but did not find it. They fluoroscoped it again and it was still there. Then I did a tracheotomy and looked into the bronchi, but found no foreign body. Then I thought it might be in the esophagus and took an X-ray picture and found it in the stomach by that time. That taught me a point that I think is very important, and that is, that the anatomical difference between the esophagus and the trachea is such that that mistake should never be made. The trachea is a cartilaginous tube which remains open and foreign bodies which pass the larynx will pass the bifurcation of the trachea and will not lodge in the space between the larynx and the bifurcation. Whereas the esophagus is a collapsible tube and they may lodge anywhere along that space. I want to bring out that point because that mistake should not be made. I want also to mention the point that Dr. Dupuy brought out about the tolerance of the tracheo-bronchi mucous membrane for foreign bodies. I was removing a dime from a woman's larynx that had been there four months and the only symptom was aphonia. Her cough had passed—she coughed at first, but when I saw her she was not coughing. Another instance was a child who had aspirated a six-penny nail—a four months old baby. It was in the right bronchus. When I set the child up there was no coughing and the breathing was natural, when I laid him down there was a violent spasm of coughing. It was my theory that the reflex was where the point of the nail went into the trachea, whereas when the head went into the bronchus it did not produce any coughing at all.

Dr. E. R. Gandy (Alexandria): I would like to ask Dr. Lynch if he has had any additional experience in the use of a magnet to

straighten out or change position of foreign body of steel in the trachea or bronchus preparatory to removal, as it was my privilege to witness him do once several years ago.

Dr. Marshall M. Moody (Long Beach, Miss.): Apropos of Dr. Lynch's paper, I wish to report a case. I was called last Wednesday night about ten o'clock to see a child that was choking to death. When I got there the little fellow, twenty months old, had marked dyspnoea. Their doctor was there and gave this history: The night before the child had been eating peanuts, and suddenly it began coughing. By the way, it was at a carnival with its two little sisters. Some woman around noticed it and grabbed it up and ran her finger down its throat and got out some peanuts. This doctor saw the case that night after it was sent home. With the exception of this history and dyspnoea the child had been perfectly well in every way. I looked into the larynx and saw nothing. I doubted there was any foreign body in there, yet from the physical signs and the history of the case I did suspect it. I sent it to the hospital and told the nurse to keep it quiet for a while. The next morning I went out and found the grandmother had come in and she said the child was all right, that it was a case of asthma. I gave it a hypodermic and it has been well ever since.

Dr. D. O. Willis (Leesville, La.): I want to mention the extreme tolerance of the bronchus for foreign bodies and also to tell about how I made a mistake. A little boy about six years old was brought to me who told me that he had breathed a five-penny nail into his lung. He had a good deal of coughing at the time, but when I saw him I did not find anything wrong at all—he was apparently perfectly normal. I rather discredited his statement and passed it up. I told his mother to watch him and if any trouble came up I would make an X-ray. About four months later he was playing out in an orchard one day and in "skinning the cat" and hanging by his legs from the limb of a tree with his head down, the nail dropped down against the epiglottis and he coughed it out.

Dr. M. P. Boebinger (New Orleans): I will not try to match my wits with Dr. Lynch, but I will merely attempt to tell a few of the experiences that I have had. In one case I can almost corroborate what the doctor said about "skinning the cat," except that I made a complete failure. This was a case of a child that had pneumonia. I made an absolute failure. The foreign body was a ball bearing from an automobile. I suggested raising the foot of the bed and a little later, probably two weeks, when resolution had set in, I was happy when the patient had a coughing fit and expectorated the foreign body. It was steel and round and my failure was because the foreign body was shown by the X-ray picture but there was exudate in front of my view, which caused my failure.

Another point is that in taking an X-ray picture of these cases I believe it is advisable always to take a lateral view. I remember one case of two years' standing, a little boy who had been seen by very good men. He gave a history of choking spells and some gastric disturbance. An X-ray was taken only antero-posteriorly, but it showed nothing. I thought the foreign body was not in the trachea because it was of long standing and there would have been worse symptoms. I believed I would find the foreign body in the esophagus. I removed the foreign body in a few seconds. But a lateral view, I am certain, would have shown this in the esophagus. My third experience was a young lady who, while eating oyster soup, swallowed a small piece of shell. We suspended this patient and used a Jacksroscope and in a few seconds was successful.

Dr. R. C. Lynch (closing): I confined myself solely to the diagnosis of foreign bodies, and therefore questions about technique I

will not answer. The message I wish to bring to you is the tolerance of the lung for retaining foreign bodies, as Dr. Dupuy has mentioned. In your cases of tuberculosis in which you have a foul-smelling, purulent suppuration without finding tubercles in the sputum, please have a careful X-ray picture taken to test for the elimination of foreign bodies. Five cases of long retained foreign bodies have come to me after having been through from two to three years of tubercular medication. This is one message I wish to bring to you in regard to the chronic cases. The other is that in the acute cases you will not pay attention to the first few minutes of the paroxysm, but try bronchoscopy, knowing that bronchoscopy has no contra indication, and without complications it is a perfectly safe procedure, much safer than to permit the patient to go to the point of possible abscess formation.

ORGANIZATION OF THE 312th MEDICAL REGIMENT.*

Address of MAJOR ROBERT B. SHACKELFORD, M.C., U. S. Army, Executive Officer, 312th Medical Regiment, Before the Orleans Parish Medical Society, New Orleans, La., October 23, 1922.

Mr. President, Ladies and Gentlemen:

I appreciate very highly your courtesy in allowing me to appear before you to speak, briefly, on the organization of the 312th Medical Regiment. The term "Medical Regiment" is a by-product of the Great War—the same unit was then called Sanitary Train. The 312th Medical Regiment is a unit of the 87th division, which, as you doubtless know, draws its personnel from the states of Alabama, Mississippi and Louisiana. But the Medical Regiment is exclusively a Louisiana outfit, and since this is true, I bespeak your interest and help in completing its organization with only the best of material, because of your State pride. The regiment has a commissioned strength of 68 officers (Medical, Dental, Vet. and Chaplain and Med. Ad. C.) and 860 men. It is divided into three battalions—Hospital battalion, Ambulance battalion and Sanitary battalion. Each battalion has three companies, viz.; Hospital Co. 334, 335, 336; Ambulance Co. 334, 335, 336, and Sanitary Co. 334, 335, 336. The regiment as a whole is commanded by a colonel who is also Division Surgeon of the 87th or Acorn Division. As his executive officer, he has a lieutenant colonel next in command, and each battalion is commanded by a major. Sanitary battalion headquarters has one major and six enlisted men. Each sanitary company is commanded by a captain, and has a total of 4 officers and 100

*Read before the Orleans Parish Medical Society, October 23, 1922.

enlisted men. The Ambulance battalion is commanded by a major, who has one other officer as his assistant, and six men. Each Ambulance company is commanded by a captain, who has one officer as assistant, but the 334th A. C., which is animal drawn, has an enlisted strength of 61, whereas the other two companies, motor drawn, have only 55 men each.

The Hospital battalion is commanded by a major, who has one captain or lieutenant as assistant, and seven men at his headquarters. Each Hospital company has a major in command, with seven other captains or lieutenants as assistants, and an enlisted strength of eighty men.

In addition there is the Medical Supply Section, commanded by a captain, with one officer as assistant and thirteen enlisted men. Then comes the Medical Laboratory Section, commanded by a major, with one captain or lieutenant as assistant, and seven enlisted men. Last, but by no means least, comes the Vet. Co., commanded by a captain of the Vet. Corps, with three other officers as assistants, and 78 enlisted men.

The headquarters of the regiment is New Orleans, which is also Ambulance Battalion Headquarters, and headquarters of each Ambulance Company, and the Laboratory Section, Medical Supply Section and Vet. Co. The Service Co. of the regiment has its headquarters at Kentwood, La. Sanitary Battalion Headquarters at Eunice, La.; Sanitary Co. 334, Lake Charles; Sanitary Co. 335, at Plaquemines; Sanitary Co. 336, at Morgan City, La. The Hospital Battalion Headquarters is at Winnfield; Hospital Co. 334, at Mansfield; Hospital Co. 335, at Natchitoches; Hospital Co. 336 at Monroe, La.

Now, gentlemen, I want to invite your attention again to the fact that this regiment is a product of your own State, LOUISIANA. I am here as executive officer, and it is my duty to organize the regiment, be responsible for the paper work and details of administration during these "piping times of peace," but if war is ever declared, and the division mobilized, the officers assigned to the regiment would take over my duties and start the regiment to functioning, though it is possible I might be left for a while as executive officer until the machinery became well oiled and in fine working condition.

To date, I have a shortage of 33 officers, divided as follows, 22 Medical, 4 Vet., 2 Dental, 5 M. A. C. By rank, I am short

one full colonel, four majors, seventeen captains or lieutenants of the M. C. one major, three captains or lieutenants of Vet. Corps, two captains or lieutenants of the Dental Corps, and five captains or lieutenants of the M. A. C.

Those of you who have ever had service in the old Sanitary Train will agree with me that in the whole Medical Department there is no unit that gives you as much real *soldiering* as the Medical Regiment. In it there are opportunities for medical men to be company and battalion commanders, with close and intimate contact with their men. The life is one of excitement, for the regiment follows the line troops into action, and many, many deeds of heroism are recorded on the part of the Medical Department men and officers in this work. I hope that the few vacancies existing will soon be filled, and that applications for enrollment will be reaching my office from those of you who are interested.

Again I thank you for the privilege of addressing you.

AN UNUSUAL ERUPTIVE DISEASE IN CHILDHOOD, WITH A REPORT OF SEVEN CASES.*

By DRS. RENA CRAWFORD and G. RICHARDA WILLIAMSON.

This unusual eruptive disease in childhood was first seen by us in September, 1921. We watched the child throughout the whole illness but were unable to make a definite diagnosis. Since that time we have seen six similar cases and have read reports from three or four others who have seen the same sort of cases. Ours were so much alike in their signs and symptoms that it is not necessary to describe in detail more than one.

In September one of us was called to see a child of 14 months. The mother reported that the baby did not seem very ill but that it had vomited its supper, consisting of milk and cream of wheat, the night before and had been "feverish." She had given castor oil and the bowels had moved twice, but the temperature had not been reduced. On physical examination it was found that the child looked well, was not cross or irritable. Its temperature by rectum was 102. Its throat was normal, ear drums not congested. Heart, lungs and abdomen were negative. We thought the fever due to a gastro-intestinal disturbance and

*Read before the Orleans Parish Medical Society, October 23, 1922.

gave a quarter grain of mercury with chalk every four hours. The next day the morning temperature was 101, and the evening temperature 104. Urinalysis was done and was negative. A complete blood count was not done, but a smear was taken and a differential count made. From the smear it was evident that there was not a leucocytosis. The count showed neutrophilic polymorphonuclear cells 33%. Small lymphocytes 65%, large mononuclears 2%. Again the next day the temperature was between 101 and 104 all the day. A second urinalysis was negative and no abnormal physical signs were found save the temperature. The following morning the temperature was normal and in the evening a rash appeared. The child seemed well but it had never seemed sick or toxic during the whole illness. When we saw the child the body and face showed a morbiliform rash which had spread to arms and legs, there was little below elbows and knees. It was rose colored with a bluish tint, about the color of a measles rash, it was not felt above the skin, it disappeared on pressure. It was nowhere hemorrhagic in character. The individual lesions were pin point or pin head in size. They often collesced to form irregular blotches. There seemed to be no itching. It disappeared in about 48 hours, leaving a slight discoloration a day or two longer. There was no desquamation. There had never been any redness of eyes, and sneezing, any running of the nose, any koplik spots or any enanthem in the mouth. There was no history of previous exposure to any infectious disease.

Before the rash appeared we thought of pyelitis, which was ruled out by examination of three separate specimens of urine, of otitis media, which was ruled out by examination of ear drums. We thought of a concealed pneumonia which did not yet show physical signs, but the good condition of the patient made pneumonia seem an improbable diagnosis and the blood picture, the lack of leucocytosis, the lack of increase in neutrophilic polymorphs was not the picture of pneumonia. The count of 65% lymphocytes was not far from normal for a 14 months old child. Influenza we could not rule out as the lack of abnormal physical signs in chest and a normal blood picture often go with influenza.

After the rash appeared the eruptive stage of the exanthemata at once was thought of. Scarlet fever was quickly ruled out because the rash in this case was so unlike the true scarlet erup-

tion and because the invasion stage in this case lasted three or four days while the invasion stage of scarlet fever is usually not more than 24 hours. The distribution also was unlike scarlet, the face being covered as well as the trunk, there was no circumoral pallor in our case. The rash of rubella bears a resemblance to the rash of our case, but the invasion period of rubella is marked just by the rash and a stiff neck due to enlarged cervical glands. Our case had not enlarged glands and the rash appeared after three days fever. The distribution of the rash was about the same. Slight staining was left by the rash in this case. The rash of rubella leaves no staining. Measles we ruled out by the dissimilarity of the invasion period, the lack of the catarrhal stage, the enanthem, the Koplik spots. And the child never had the woebegone appearance of measles, the blotched face, the puffy eyelids, and the bleary eyes.

The child had received no drugs to produce a rash, she had only a small amount of mercury with chalk. She had eaten egg for about the fourth time two days before she became ill. We felt reasonably sure that the case was not one of the usual exanthemata. We made the diagnosis, with a big query, of an unusual anaphylactic reaction to the protein of egg.

The rash might have been caused by anaphylaxis but the freedom from all respiratory and nervous symptoms, the freedom from gastro-intestinal symptoms with the exception of vomiting the one time, the absence of eosinophilia all pointed against the diagnosis of an anaphylactic reaction. We may add that the child had eaten egg many times since then without any unpleasant symptoms following. We saw a case similar to this one in 1920 which we were unable to diagnose. We then thought of measles, but it was so dissimilar to that disease that the diagnosis remained uncertain. The patient had a typical attack of measles the following year.

In December, 1921, there appeared in the J. A. M. A. an article by Veeder and Hempleman entitled "A Febrile Exanthem Occurring in Childhood," in which they have reported several cases seen by them. From the description of their case it seemed that ours was the same thing. They made blood counts in several cases and in every instance found a leukopenia and a lymphocytosis, the leucocyte count ranging from 80 to 90%. They called the disease "Exanthem Subitum." They referred to an

article by Zahorsky which appeared in "Pediatrics" in 1910 in which he described this disease and called it "Roseola Infantilis." His description was practically the same as that of Veeder and Hempleman. He, however, states that in majority of his cases he found slightly enlarged cervical glands, but he did not state whether these glands were tender or whether they disappeared when the disease did. It seemed to us that slightly enlarged cervical glands in infants is such a common occurrence that we examined the cervical glands of the next 247 healthy babies we saw and found that 51% of them had slightly enlarged or at least palpable cervical glands. In September, 1921, in *Am. J. of Med. Science*, Westcott described cases presenting these same symptoms. He called the disease pseudo-rubella. He says he usually found enlarged cervical glands and that these glands were tender and they disappeared when the rash subsided. In December, 1921, Levy described the disease in an article entitled, "An Eruptive Fever of Unusual Characteristics Occurring in Childhood." Greenthal in 1922, *Am. A. J., Dis. Children*, had a paper on "An Unusual Exanthem Occurring in Childhood," which was the same disease as described by the others. Park and Michael, in the June, 1922, No. of *Am. J. of Dis. of Children* have a full description of "A Peculiar Eruptive Disease Occurring in Infancy." Their description does not differ materially from that given by the other writers, but they have made more blood counts than the others have reported. They made 22 counts in 18 cases. Their highest leucocyte count was 7800 and their lowest 4,800. The lymphocyte count was in 2 cases between 65-75%, in 17 cases between 76-85%, and in 3 cases over 85%. They made one blood culture which was negative but they do not state at what stage of the disease the culture was made. Veeder and Hempleman reported one negative culture, but the culture was made after the temperature dropped to normal and the rash had come out. Since we saw the case described above we have seen six others similar to it. All have had fever three or four days with negative physical findings, save one child had a congested throat and one had reddened ear drum. After the three or four days fever a similar rash has appeared and the child has seemed well after its appearance. In all our cases other children in the household have been exposed but in no instances has a contact developed the disease. Of all our cases six

were wholly or partially artificially fed. One boy of 11 months was wholly breast fed, so the mother declared. But the fact that one of our babies had had no protein except that of the mother's milk does not rule out the diagnosis of a reaction due to protein sensitization, for recent observers have shown that an infant may suffer from a reaction to certain proteins eaten by the mother when the mother herself shows no symptoms of such a reaction.

In our opinion this eruptive disease is an exanthem not given a name in our medical text books. It is difficult to make a study of these cases because usually the physician is not called till the infant has been sick a day or two, and usually he does not make a diagnosis for another day or two till the rash suddenly appears and the child is well again. We hope to have the opportunity of making some blood counts in the febrile stage of the disease later and to make some protein sensitization tests on the cases previously seen.

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EDITORIALS.

HOSPITAL NOISE.

The correct conception of the modern hospital carries with it the idea that everything feasible is done within its walls for the safety and comfort of its inmates. From the theoretical standpoint this is true, though in practice it is seldom borne out. There is perhaps nothing more nerve-racking to the sick than the constant repetition of noises, particularly if the individual feels or has reason to know that these are avoidable.

Certain hospital noises are unavoidable on account of physical surroundings such as the close proximity to street cars or street

traffic in general. Other noises however, are of a different character and their ceaseless repetition speak loudly at times for inefficient management and inattention to details. From the very nature of the hospital certain indoor noises are inevitable though nearly all of these can be controlled to a certain degree. For instance, persistent unnecessary noises on the part of attendants, nurses and visitors can and should be controlled. Here it is a question of attitude and it behooves those in authority and their lieutenants to inculcate the idea and keep driving home the thought that after all the *patient* is the most important object in the hospital and as such, deserving of the fullest consideration.

Many times defects in construction or inattention to detail showing woeful lack of foresight are responsible for the noise. In this category should be mentioned especially all the loud systems of signaling and the roaring of elevators. The creaking and slamming of ordinary doors is avoidable, as is also the shock-producing bang of the screen door. Kitchens also are a fruitful source for the most annoying noise-nuisance in the hospital.

The clanking and clattering of dishes is a nuisance of the most harassing variety to the sick. For the sake of convenience, the saving of steps and for general service, kitchens are often placed in the middle of a hall so that no part of the hall escapes the noise. This could be easily controlled by making the only means of entrance and exit to and from the kitchen through double swinging doors, each one placed at the extremity of a corridor, as is commonly done in certain hotel kitchens. If the corridor is sufficiently long to allow the first door entered to swing shut before the second door is reached the kitchen noise can be entirely eliminated.

With the prospects in the near future for extensive hospital construction in the State and particularly in New Orleans, might it not be wise to give the question of avoidable hospital noise a little more thought and consideration than has been allotted to it apparently in the past?

FOODS.

Recently the Journal of the A. M. A. contained a full-page advertisement of a series of articles appearing or to appear in Hearst's International Magazine under the general caption of Doctors and Drug Mongers, the first with the sub-title of the Truth About Vitamines, the second the Truth About Syphilis, the third to be the Truth About Vaccines. We will at present concern ourselves only with the "Truth About Vitamines."

The truth about vitamins really is that we know very little about them. The most we do know about them is that there seems to be a requirement in the animal economy for substances such as they seem to be.

There is seldom a requirement so generally expressed in the form of a demand for which large and widely-disseminated numbers of people are willing to pay that the requirement is not a real necessity.

That being true, would it not be wise to determine the cause of the demand for vitamins? May it not be true that our methods of preparation and marketing of foods may be at fault, wherein certain vital elements may be diminished or destroyed by—say, the bleaching of flour, the addition of certain preservatives to foods, or what not?

Would it not be better to get at the basic cause of this demand and find out why we should be compelled to buy an extra portion of that which our food normally should contain?

HAMILTON P. JONES, M. D.

SOCIETY PROCEEDINGS.

**PROCEEDINGS
OF THE
HOTEL DIEU STAFF.****Monthly Meeting for November, 1922.****The President, Dr. Homer Dupuy, in the Chair.****FUNCTIONAL LIVER TEST.**

Dr. Alden Maher made a preliminary report of the Digestion Hemolysis Test for the insufficiency of the liver. Details relative to the test were as follows:

“An article appearing in the *Presse Medical*, Paris, December 11, 1921, by Vidal, Abrami and Ivancovesco, describes what is said to be a very reliable and sensitive test for liver functions, known as the ‘Digestion Hemolysis Test for the insufficiency of the liver.’ It requires only fasting the patient over night and counting of the leucocytes before and at intervals of an hour, after drinking a glass of milk. We know that normally there is a rise in the leucocyte count after the ingestion of food or during digestion and that the liver plays an important role during this process. The author claims that with a normal liver the leucocyte figure rises or remains about the same but with disturbed function there is pronounced destruction of the leucocytes for the first hour or two during digestion. Normally the liver holds back the incompletely disintegrated proteins which have passed through the intestinal wall during digestion. When the liver is incapable of retaining these incompletely disintegrated proteins they pass into the general circulation and destroy the blood corpuscles, ‘the digestion hemoclastic crisis,’ as they call it. They found no trace of this ‘digestion hemolysis’ in a number of healthy persons examined, nor in those with different diseases in which the liver was not involved. Wolf, in the *Schweizerische Medizinische Wochenschrift* Basel, August 2, 1922, and Gould in *Nederlandsch Tijdschrift V. Geneeskunde*, Amsterdam, July 1, 1922, conclude from their tests of Vidal’s hemoclastic crisis that it is not only a constant sign of diffuse liver disease but it is one of the most sensitive reactions known to date. There are other symptoms accompanying the hemoclastic crisis besides the drop in leucocytes, but the authors have

concluded that leucocyte reaction is of sufficient importance and uniformly constant without heeding the change in blood pressure, coagulation time, etc."

In our work in the Hotel Dieu pathological laboratory we have had the opportunity on several occasions of applying this test. The following three cases serve to illustrate its application:

Case 1 of Dr. Thiberge: Mr. G. entered hospital October 5, 1922. Complaint, stomach trouble.

F. H. Negative.

P. H. Troubled with stomach for past year or so, some nausea and vomiting at times.

Examination. Well nourished male. All negative except some tenderness in epigastrium. All laboratory examinations negative except some increase in leucocyte count (13,000). The X-ray G. I. tract negative. Liver function test showed marked liver insufficiency.

Remarks: Patient much improved and was sent home with the possible diagnosis of hepatitis and some obstruction (biliary calculi).

October 18. Patient re-entered complaining of violent pain in stomach.

Examination. Showed marked enlargement of liver and tenderness on pressure. Operated upon by Dr. Danna October 23. Large, hard liver, distended gall bladder containing pus and many calculi. Many adhesions.

Case 2 of Dr. Salatch. S. D. entered hospital November 3, 1922, for liver function test. Complaint, indigestion, nausea and vomiting at times, prostration.

F. H. Negative.

P. H. Typhoid fever.

P. I. About three months ago indigestion constantly with feeling of soreness in region of stomach, nausea, vomiting, loss of weight, nervousness.

Examination. Fairly well nourished female, all negative except for some soreness on pressure over epigastrium. All laboratory findings negative except liver function test, which showed no rise or fall in the leucocyte count, remaining 5,000 throughout the two hours, showing some impairment. Operated upon by Dr. Salatch November 8. Liver somewhat swollen, gall bladder showed chronic exudative inflammation.

Case 3 of Dr. Thiberge. S. J. entered hospital August, 1922. Complaint, indigestion and high B. P.

F. H. Negative.

P. H. Negative.

P. I. Two years ago discovered had high B. P., constant attacks of indigestion, heavy lump in epigastrium, severe pains at times, vomiting, fever.

Examination. B. P. 160, liver and region of epigastrium tender. All laboratory findings negative. Liver function test showed no impairment of liver function.

Remarks. Patient sent home, much improved to this date, three months since, is doing very well.

The foregoing cases serve well as examples of first, acute insufficiency of the liver; second, a low-grade chronic condition, and, third, normal function. The test is also extremely valuable

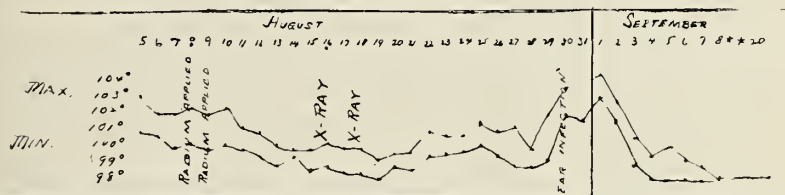
in determining the amount of liver damage done by the administration of arsphenamine, other arsenical compounds, chloroform, ether, etc., and in controlling the degree of which permanent injury may result therefrom.

LYMPHATIC LEUKAEMIA.

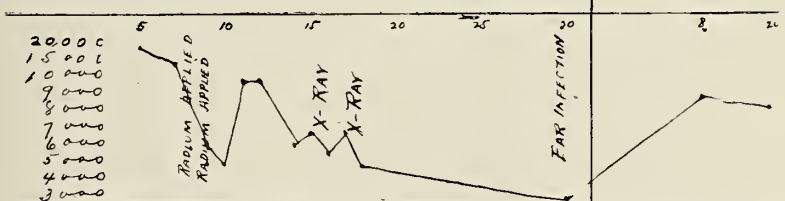
Dr. F. M. Hoffman reported a case simulating acute lymphatic leukaemia with apparent recovery.

Miss F. L. Age 8, residing near Jackson, La. Taken sick July 27th with malaise, temperature ranging from 99 in the morning to 102 in the afternoon. Malaria examination negative. Widal negative. Appetite poor. On the night of August 2nd mother noticed that child's gums were bleeding and on the morning of August 3rd she noticed red spots all over the body. The doctor was summoned and pronounced it a case of purpura hemorrhagica, and advised immediate removal to the city. She arrived here on the evening of August 3rd. On examination the child's face and extremities were covered with

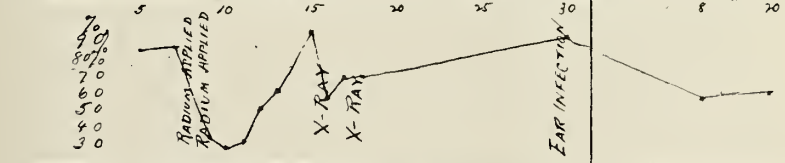
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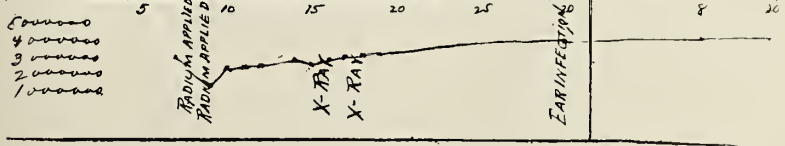
TOTAL WHITE CELL COUNT



COMBINED MONONUCLEAR DIFFERENTIAL CELL COUNT



TOTAL ERYTHROCYTE COUNT



purpuric spots; there were none on the trunk. Slight cervical, axillary and inguinal glandular enlargement. Bowel movements as well as micturition contained bright red blood. She was seen in consultation on August 4th by Dr. Nix, who suggested the strong possibility of scorbutic etiology. Total and differential count showed 20,000 white cells, with 90% mononuclears.

She was seen in consultation late Saturday evening, August 5th, by Dr. Bel, who pronounced it a case of acute lymphatic leukemia, and suggested the use of transfusion if hemorrhages should continue. During Saturday and Sunday the child developed a few more purpuric spots. Hemorrhages continued as before. The usual hemostatics were given, such as calcium lactate, benzol, horse serum, etc., without result.

Monday, August 7th, blood picture was as follows: total reds, 3,400,000, hemoglobin, 50%, total whites, 17,000, mononuclears 90%, platelets diminished in number. Seventy-two and one-half mgs. of radium were applied over the splenic area for 24 hours. The following day one hundred and seventy-two and one-half mgs. of radium were applied over another splenic area for 24 hours. Count taken next morning, August 9th, showed the following: red cell count 1,830,000, hemoglobin 45%, total white cells 6,500, mononuclears 36%, no blood in stool. During entire time of application of radium the child appeared to be feeling badly and complained of several attacks of nausea.

On August 10th total red count was 2,190,000, hemoglobin 40%, total white count 5,000, mononuclears 32%.

On August 14th total red count was 2,700,000, hemoglobin 45%, total white count 7,500, mononuclears 67%. Purpuric spots had faded and hemorrhages ceased. Appetite improving.

On August 15th total red count was 2,790,000, hemoglobin 45%, total white 8,300, mononuclears 90%.

Fearing effects of radium on the red cells, it was decided to use the deep X-ray therapy. A half hour exposure over the femurs was given.

On August 16th, total red cells were 3,100,000, hemoglobin 50%, total white 5,800, mononuclears 61%. Platelets slightly below normal. Temperature at that time had dropped to a maximum of 100 and a minimum of 99.

On August 17th another X-ray exposure was administered on account of the rise in the mononuclears.

On August 18th total red count was 3,460,000, hemoglobin 50%, total white 5,000, mononuclears 71%. Temperature then was maximum 100 and a minimum of 98.6.

A rest was then given and she was sent to stay with relatives outside.

On August 24th the child developed "la grippe," the temperature gradually rising to a maximum of 102 2/5 on August 27th. The temperature again went down and the patient began having pain in the right ear, developed temperature of 103. The condition was diagnosed by Dr. Ryan as an acute catarrhal otitis media. This lasted for four days, the temperature going down to normal on September 7th. The count taken on September 8th showed total red cells, 4,210,000, hemoglobin 75%, total white count 10,400, lymphocytes 50%, platelets normal. The child's temperature remained normal. A count taken on the 20th of September showed a total red cell count of 4,790,000, hemoglobin 75%, mononuclears 52%, total white cells 8,400, platelets normal.

Dr. Couret stated that the malignant blood diseases have always been extremely interesting, principally because the blood

picture showed something a little different in each case, and because other conditions might sometimes be confused with them. He said "malignant" because he was not convinced from the data at hand that any true primary anemia or leukemia had ever been cured. Many conditions giving rise to grave secondary anemias and lymphocytosis might at times be mistaken for these primary blood diseases. He made the mistake, not infrequently, of diagnosing as primary anemias and lymphatic leukemias, cases that later proved to be tubercular or syphilitic or even colon infections.

Dr. Hoffman's case certainly suggested at its onset acute lymphatic leukemia and it was only on further blood examinations that he became doubtful, and later that he was convinced, that the case was not one of this kind. Pernicious blood diseases were fortunately rare. In his experience he seldom met with more than an average of one or two cases a year. Within the past four months he had seen four or five cases of the type of Dr. Hoffman's and had heard of as many more from the Touro Clinics and Charity Hospital. All of these cases were diagnosed lymphatic leukemias and, while most died, he knew that several recovered.

It is believed by some that leukemias are infections and sometimes transmitted to those coming in contact with the afflicted one. Dr. Couret wondered if it were possible that we were dealing with an epidemic of this disease. He was rather inclined to think that we were dealing with a malignant form of some acute infectious disease, perhaps Dengue.

Dr. W. A. Gillaspie recalled a case he had some fifteen years ago. He was called to see a child between the age of four and five years. This case started with bleeding of the gums and eyes. Afterward ecchymotic spots appeared all over the body.

In those days there were no laboratories and there were no tests made. The child was treated symptomatically by being put to bed with an ice cap to the head, and sponging was ordered to control the fever. Plenty of lemon juice, arsenic and iron were given. The child recovered and is living and healthy today.

Dr. Charles Bloom was very much interested in the case presented, but systematology and laboratory findings were such that he could not differentiate this case from Purpura Hæmorrh-

hagica. Purpura in infants and children was classified under three headings: 1. Purpura Simplex. 2. Purpura Rheumatica. 3. Purpura Hæmorrhagica (Morbus Maculoso Werlhoffi). He said the first two types could readily be eliminated, but the third corresponded in a great many ways with the case in question.

As regards Lymphocytosis, oftentimes one notes such findings with but slight pathological changes to warrant same, but on the other hand, we know that it is true that the number of lymphocytes are normally increased in children, particularly in infants. The fact that this child had purpuric spots on the extremities and surfaces exposed to pressure, makes this more interesting as far as differential diagnosis is concerned. Inasmuch as adenopathies are often noted in children with simple anemia and with mild infections, and sometimes in cases where no pathology can be demonstrated, the following questions were warranted: 1. What was the child's condition prior to this illness? 2. Was there any evidence of general adenopathy prior to this illness? 3. Was a blood count made at any time previous to the one mentioned?

As regards the pains mentioned, this symptom was sometimes explained in purpuric conditions by sub-periosteal hemorrhages as noted at autopsy. Dr. Bloom found it difficult to make a final diagnosis of acute leukemia in the case.

Dr. Bowden did not expect to discuss Dr. Hoffman's report, but was greatly interested in the case presented because of one which had come to her attention through Dr. Loeber's service in the Touro clinics. The only aspects which this case presented in common with Dr. Hoffman's case were nose-bleed and a relatively high leucocyte count. As she recalled it, the count was 18,000 leucocytes with 70-80 lymphocytes. Otherwise, the case was clinically negative. No diagnosis was made and no improvement noted. She heard of another case presenting the same symptoms outlined. In this instance, a diagnosis of acute lymphatic leukemia was made and cacodylate of soda administered. The case recovered.

Dr. Hoffman said that no basal metabolic rate was taken and no blood cultures made, as he thought that the diagnosis was

certain at the beginning. He was concerned, then, more about the immediate treatment than an erroneous diagnosis.

He investigated the lymphatic leukemia cases that had been shown at Charity Hospital and found that there were many leukemia cases. Dr. Irwin stated that all of these cases were chronic and not acute during the time that he was there. In answer to Dr. Bloom, Dr. Hoffman stated that previous to the onset, the child was perfectly well, hence no count was taken.

When the child came in physical examination revealed posterior cervical gland enlargement, axillary and inguinal enlargement. X-ray of the chest was made and was negative.

As regards pains, they came on after she was back home, after radium and x-ray treatment and after the bleeding had ceased. Pains were relieved with aspirin. They were acute at the time but passed off within 24 hours.

Dr. Hoffman felt indebted to Dr. Danna for his suggestion as to the use of radium. He tried it and was successful. However, if it had not given results, he was determined to give Coleys toxius a trial.

**PROCEEDINGS
OF THE
TOURO INFIRMARY STAFF.**

Monthly Meeting for November, 1922.

The President, Dr C. Jeff Miller, in the Chair.

GASTRIC HEMORRHAGE.

Dr. Urban Maes reported a case of unaccountable gastric hemorrhage. This occurred in a young man 22 years of age—a fireman—who had never had any previous symptoms pointing to gastric pathology. When first seen a quart of blood had just been vomited for the third time. Hemorrhage from gastric ulcer was immediately suspected. Operation was refused till the next afternoon—an interval of about sixteen hours. In the meantime, he had still been having vomiting spells of bright red blood at regular intervals—just long enough for the stomach to fill. He would settle down after a vomiting spell in a state of exhaustion and wait for the next hemorrhage to occur. Operation failed to reveal anything in the stomach suggestive of ulcer. In the duodenum a small indurated spot suggestive of duodenal ulcer was found. The anterior stomach wall was then incised and the entire mucous membrane from the cardia well into the pylorus failed to reveal any bleeding point. Thinking that the induration in the duodenum might be an ulcer, posterior gastroenterostomy was performed. Following Neuhof's suggestion, two doses of sodium citrate were given to increase the rapidity of coagulation. Nothing done, including gastric lavage, had any effect on the bleeding. Vomiting always profuse and copious and hemorrhages continued, and finally, death occurred on the morning after the operation. Dr. Maes' attention was attracted to an article in the April number of S. G. O., by Dr. Armstrong, who reported in detail a similar case and called attention to the fact that ten or twelve similar occurrences had been noted in Montreal. No etiology except the possibility of infection was suggested. All operative cases died. He reported two recoveries where the condition was recognized or suspected. Both were transfused and recovered. Armstrong suggested that transfusion acted by minimizing the infection and increasing the blood coagulability. All of the patients operated on died and all not operated on but transfused got well.

CRANIAL INJURIES.

Two cases were reported by Dr. Maes. Both patients were victims of severe head injuries. In one, some of the signs of a fractured base were recognized, but not in the other. Under observation for two hours, there was no surgical shock. The advisability of decompression was determined by using the mercury manometer instead of depending solely on spinal puncture. The pressure on both of these patients instead of being a normal plus 7 to 10 was plus 21 in one, and plus 22 in the other. Double decompression was done in both cases. Bloody cerebrospinal fluid was found. Both have made uneventful recoveries. Both have cleared up entirely and remained well. The important point was the rather accurate method of determining the intracranial pressure.

Dr. Hilliard Miller reported a case of gastric hemorrhage without reference to a stomach lesion. Twelve years ago her breast had been removed for adenocarcinoma. Two years following the operation a gastro-enterostomy had been performed for duodenal ulcer.

Cancer of the stomach was suspected or recurrent ulcer of the duodenum or jejunum. Operation was refused until numerous hemorrhages recurred.

Laparotomy was done and thorough search of the duodenum, stomach and upper jejunum failed to reveal any ulcer or condition to account for hemorrhage. The anterior wall of the stomach was opened and the entire mucosa everted in a search for the cause of the bleeding. The mucous membrane failed to show anything other than a mild degree of oedema with a general oozing of blood. There were no varicosities nor was there any noticeable evidence of cirrhosis of the liver. The gastric mucosa was seared with a dull red cautery and the stomach and abdomen closed. The patient made an uneventful recovery and has had no further attack over a period of twenty months. Dr. Miller was inclined to feel from Dr. Maes' report that the patient recovered in spite of the operation, rather than as a result of it.

Dr. De Buys asked if any blood coagulations were determined in these cases.

Dr. Landry stated, in regard to undetermined gastric hemorrhage, that he had an experience some years ago where a gas-

trotomy and thorough search failed to reveal the source of hemorrhage. At autopsy a marked varicosity with erosion in the lower esophagus was found. He thought this incident might suggest a possible etiological factor. There was no hepatic cirrhosis.

Dr. A. I. Weil said that transfusions and infusions helped these cases of oozing from the stomach; it was possible that the procedure which had been adopted by the Ear, Nose and Throat men might be of equal importance. That is to say, if the purpose of the transfusion was simply to increase the coagulability of the blood, it was found that the injection of certain hemostatic serums reduce coagulability very markedly and so terminate the bleeding. Sometimes coagulation time was reduced from seven or eight minutes to three or four, and it seemed in these cases that if these hemorrhages were due to lack of coagulability of the blood, the patient might be benefited by the injection of serum without using actual blood transfusions.

Dr. Maes called attention to the careful inspection in his case and stated that there was no cirrhosis of the liver. The coagulation time was not tried.

RUPTURED SPLEEN.

Dr. Urban Maes reported a rupture of the spleen following a motor cycle accident.

The patient, 25 years of age, was thrown from a motor cycle in a collision. He presented the picture of extreme shock and complained of some pain in his left hypochondriac region. From the rapidity and volume of his pulse, also his blood pressure, nothing could be found other than extreme shock. Hourly blood pressure readings failed to reveal any change and the volume and rapidity of pulse improved for several hours. After nine hours he began to lose ground, so determination of his hemoglobin was made with a Dare instrument. The reading was 65. The possibility of internal hemorrhage was suspected and exploratory laparotomy was done twelve hours from the time of injury.

A median incision revealed a distended peritoneum of the characteristic bluish color seen in intra-peritoneal bleeding. Passing the hand to the left hypochondriac region, a rent was felt in the convex surface of the spleen. This organ was brought into the wound with difficulty on account of a short pedicle.

There was a rent in the capsule extending a short distance into the pulp. Despite infusion and a subsequent transfusion the patient died the following afternoon.

FOREIGN BODIES IN THE OESOPHAGUS.

Dr. Kearney reported three cases of foreign body in the oesophagus. The first case, a chicken bone; second case, a five-cent piece, and the third case, a fish bone. A young lady about 18 years of age, after eating chicken hash, suddenly felt something lodge in her throat. She came to the hospital a few hours later complaining of pain under the sternum on swallowing. Routine examination of the throat was negative. Fluoroscopic examination was negative. Barium capsule did not lodge at the foreign body where swallowed. Esophagoscopy examination showed the foreign body lodged in the oesophagus in the neighborhood of the arch of the aorta. It was extracted with the forward grasping forceps and proved to be a part of the sternum, the usual fragment found in cases where the foreign body is a chicken bone. The young lady was toothless, wearing false plates. This is a common cause of foreign body in the oesophagus; the patients are unable to chew well and swallow large fragments.

The second case was a baby two years old who had been unable to swallow anything but liquids for five days. X-ray showed the coin in the oesophagus behind the cricoid cartilage, the point where most foreign bodies lodge in the oesophagus. The coin was extracted with the oesophageal speculum and alligator forceps.

The third case was a fish bone in a three-year-old child. The child was sitting at the supper table and was given a mouthful of fish by another child. The patient choked and was unable to swallow after that without a pricking sensation in the throat. X-ray examination was negative. On esophagoscopy with the oesophageal speculum, the foreign body was found in the oesophagus, behind the cricoid cartilage and was removed with the alligator forceps.

The first of these cases was done under general anesthesia, the last two cases were done without any anesthetic whatever. It might be better to use general anesthesia for the extraction of those foreign bodies in the oesophagus which present mechanical difficulties, such as open safety pins. One of the difficulties

in looking through the oesophagoscope at foreign bodies is that the foreign body does not look anything like the thing that is extracted. The reason for this is that they are seen edgewise in the oesophagus. Before a foreign body is taken out of the oesophagus its position ought to be carefully studied. It is necessary sometimes to rotate foreign bodies so that any sharp points will either be brought out trailing or be brought into the tube mouth and prevented from ripping into the tissues.

Dr. Weil was struck by the frequency with which the X-ray failed in the case of foreign bodies. One would naturally expect some to give shadows with the X-ray. For instance, chicken bone—a large part of the breast bone would be expected to cast some shadow. One is inclined to believe that something has been there and passed on simply leaving the scratch. He remembered the case of a chicken bone and felt it in the region of the sternum. He was inclined to believe that this chicken bone had passed on—the X-ray was negative. Under local he passed the oesophagoscope, and as soon as it passed into the beginning of the oesophagus, there was the chicken bone. It is rather fortunate that the point of the foreign body is usually just at the opening of the oesophagus back of the cricoid cartilage. That is where they stick unless we push them down. That is why the use of the oesophageal speculum is advantageous in children especially. Occasionally unsuccessful cases are seen. A few weeks ago a boy of twenty swallowed a tooth plate of one tooth. He felt it and the X-ray showed the foreign body at the opening of the oesophagus. With forceps this was grasped, and on two occasions he failed to extract it. On the third, fourth and fifth occasions, he came to the conclusion that the introduction of the esophagoscope had pushed it down. The next day the X-ray showed the object still in the original place. Very likely the esophagoscope passed under the site of the body. The patient failed to return. Dr. Weil found coins easy to remove, safety pins difficult. When they got into the trachea and bronchi they were very difficult.

Dr. Samuels said, in defense of the X-ray, that these foreign bodies were usually very small and in contrast to the bony structure of the chest, especially the ribs, it was practically impossible to see them. Another thing that entered into the difficulty was the cooking that bones have undergone, resulting in changes in their chemical constituents.

NEWS AND COMMENT.

THE COLLEGE OF PHARMACY OF PHILADELPHIA announces that the next award of the Alvarenga Prize, being the income for one year of the bequest of the late Señor Alvarenga, and amounting to about three hundred dollars, will be made on July 14, 1923, provided that an essay deemed by the committee of award to be worthy of the prize shall have been offered.

Essays intended for competition may be upon any subject in Medicine, but cannot have been published. They must be typewritten, and if written in a language other than English, should be accompanied by an English translation, and must be received by the secretary of the college on or before May 1, 1923.

Each essay must be sent without signature, but must be plainly marked with a motto and be accompanied by a sealed envelope having on its outside the motto of the paper and within the name and address of the author.

It is a condition of competition that the successful essay or a copy of it shall remain in possession of the college; other essays will be returned upon application within three months after the award.

THE SIXTEENTH ANNUAL MEETING OF THE SOUTHERN MEDICAL ASSOCIATION was held in Chattanooga, Tenn., Nov. 13-16, with an approximate registration of two thousand. Those attending the meeting from New Orleans were: Drs. C. C. Bass, A. L. Levin, Allan Eustis, J. H. Smith, J. A. Lanford, E. C. Samuel, I. I. Lemann, Randolph Lyons, H. W. E. Walther, J. B. Guthrie, L. R. De Buys, L. L. Cazenavette, G. F. Roeling, Paul J. Gelpi, Homer Dupuy, J. W. Durel, D. N. Silverman, S. K. Simon, C. W. Allen, Urban Maes, C. J. Miller, F. W. Parham, E. D. Martin, A. Nelken, J. T. O'Ferrall, T. B. Sellers, W. Levy, W. T. Patton, Oscar Dowling, J. G. Dempsey and Dr. J. P. Leake, P. G. Lacroix, I Cohn, A. M. Caine, A. Weil.

Dr. Allen Eustis was made Chairman of the Medical Section and Dr. C. C. Bass Chairman on Medical Education.

As the complete list of officers was unavailable at the time of going to press, this list will be published in the next issue.

IN THE FIFTH CONGRESSIONAL DISTRICT. Drs. Dollerhide, Kelly and Pully, of Oak Grove, J. A. Gaharon, of Forest; W. E. Little, of Pioneer, and B. T. Bailey, of Epps, met and organized the

West Carroll Parish Medical Society on November 15th 1922. The society is to meet on the second Wednesday of each month. Dr. Gaharon was elected president and Dr. B. L. Bailey secretary-treasurer. On Dec. 13, 1922, will take place the election of officers for 1923.

THERE WAS A WELL ATTENDED MEETING of the Orleans Parish Medical Society on Friday, November 10, at 8 p. m. The meeting was called for the purpose of hearing a lecture on the subject of "Twilight Sleep" by Dr. Bertha Van Hoosen, of Chicago, Ill.

THE STAFF OF THE EYE, EAR, NOSE AND THROAT HOSPITAL held a meeting for the purpose of organization on November 6, 1922, at 8 p. m. This was held in the library of the new building, and was well attended. Dr. H. D. Bruns was elected chairman; Dr. R. C. Lynch vice-chairman; Dr. C. A. Bahn secretary. Rules and regulations in conformity with the requirements of the American College of Surgeons were adopted, and it was decided to meet hereafter on the first Monday of each month, the chairman being empowered to name a program committee.

IN THE SIXTH CONGRESSIONAL DISTRICT: The Feliciana's Medical Society held their bi-monthly meeting in the East Louisiana Hospital as guests of Dr. E. E. Evans and staff.

Dr. M. F. Wilson, of New Orleans, read an interesting and instructive paper on Vaccines. A vote of thanks was extended Dr. Wilson for his paper.

Election of officers for 1923 resulted as follows: Dr. E. E. Evans, President; Dr. Jas. Kilborne, vice-president; Dr. E. M. Toler secretary and treasurer, Dr. J. W. Lea delegate to State Medical Meeting, and Dr. C. E. Latham, alternate.

THE ORATION IN MEDICINE before the S. M. A. was delivered by Dr. C. C. Bass, dean of Tulane College of Medicine, his subject being "Transformation of the Intestinal Flora."

DR. H. W. E. WALTHER, NEW ORLEANS, was elected chairman of the section on urology of the S. M. A., at Chattanooga, recently.

DR. CHAS. H. MAYO delivered an address before the medical student body of Tulane at Charity Hospital on Nov. 18th.

DR. W. H. KNOLLE, ex-president of the Orleans Parish Medical Society, and of the Louisiana State Society, was a recent visitor

in New Orleans. Dr. Knolle has been spending some time in Texas on account of his health. From all accounts the prospects for his early permanent return are exceedingly favorable.

IN THE EIGHTH CONGRESSIONAL DISTRICT: Dr. J. C. Gremillion, who has been connected with the Marine Hospital at Algiers, has returned to Alexandria and resumed his private practice. His new address will be Albert Building, in Second Street.

Dr. Samuel Calhoun moved from Woodworth to Alexandria November 1st. Dr. Calhoun graduated from Tulane with the class of 1921 and has come to Alexandria to be connected with the Public Health Administration. Office and address in the City Hall.

The Rapides Parish Medical Society held a called meeting at the Baptist Hospital Monday, November 20, for the special purpose of reorganizing the hospital staff.

Born—To Dr. and Mrs. M. H. Foster, on Sunday, October 29, a nine-pound boy—their third son.

THE UNITED STATES VETERAN'S BUREAU offers a special course in Neuro-Psychiatry to a certain number of qualified physicians on condition that upon completion of such course they will continue in the service of the bureau for a period of at least two years thereafter.

The policy of this bureau is to provide expert medical attention for the disabled veterans so that every thing possible may be done to restore them to health and proper status in civilian life.

The main part of this course will be given at St. Elizabeth's Hospital, a government institution for the insane at Washington, D. C., which offers unusual and unexcelled facilities for such work. There are nearly 4,000 patients and case histories of more than 20,000 discharged patients immediately available for study. Here are all classes of nervous and psychotic diseases, while other public hospitals in Washington will provide abundant clinics in so-called functional diseases, borderline cases, and the milder types.

As the number of students that can be accommodated is limited, early application for each course is desirable.

AT THE CHARITY HOSPITAL, NEW ORLEANS—The Accident Service at Charity Hospital is divided into two branches, the Ambu-

lance Service and the Accident Room Service. These two branches are cared for by five surgeons, four of whom are constantly subject to call.

A call for an ambulance is given to the switchboard operator, and there are three lines on which only incoming calls can come. A card is made out by the operator, showing the address of the place from which the call came. The ambulance signal is then sent out over the telegraph ticker system, which is installed throughout the hospital. The card bearing the address of the call is given to one of the ambulance surgeons and he takes the ambulance to the scene of the accident. On arriving there the injured person is given first aid treatment and is taken to any address desired. If the patient is brought to the hospital he is turned over to the surgeons in the Accident Room, where further treatment is given before the patient is sent to a ward.

The Accident Room, which is located in the Main Building, serves patients who come in not only on the ambulance, but on other conveyances as well. A great number of the patients walk in. Cases ranging in seriousness from a broken neck to a splinter in the finger are treated here. The greatest number of patients ever treated in one month in the Accident Room was in July of this year, at which time 2025 persons received attention here.

An improvement is being made in the hot water system of the hospital. At the present time there are five heaters throughout the buildings, and it is necessary to send live steam to these heaters to heat the water. Two heaters are being installed in the power house, which can be heated with the exhaust steam. This will mean a big saving to the hospital, especially in the summer time, when it will be necessary to send steam only to those buildings where sterilizers are located.

THE DAVID TRAUTMAN SCHWARTZ RESEARCH FUND—Tulane University announces a donation of \$20,000 by Mr. and Mrs. Leon E. Schwartz for the purpose of establishing a memorial to their son, David Trautman Schwartz. A permanent trust fund has been established through this donation, known as "The David Trautman Schwartz Research Fund," of which the interest is to be devoted entirely to research work and fellowship purposes in the School of Medicine of Tulane University.

AT LOYOLA POST-GRADUATE SCHOOL OF MEDICINE—In addition to the usual courses, three intensive six weeks' courses in Medicine, in Surgery, and in the Eye, Ear, Nose and Throat, have been running since October 15th, for which only a nominal registration fee was paid.

The courses have been so popular and so generally satisfactory, that at the November meeting of the Board of Directors it was decided to repeat the series for a period of six weeks, beginning February 1st, 1923.

POST-GRADUATE SCHOOLS FOR VETERANS' BUREAU PHYSICIANS—Colonel C. R. Forbes, Director of the Veterans' Bureau, announces that he is about to establish Post-Graduate Schools for physicians now connected with the bureau and those who wish to join the service.

There will be two schools for the teaching of diagnosis, care and treatment of pulmonary tuberculosis, one at Fitzsimmons General Hospital, Denver, Colorado, and the other at U. S. Veterans' Hospital No. 41, New Haven, Conn. The course at these hospitals will be uniform and will run simultaneously. Each course will last two months, and will include collateral branches of medicine, such as pathology, X-ray plate interpretation, physiotherapy, etc.

TURNING BAYOUS INTO LAKES CONTROLS MALARIA MOSQUITO—The U. S. Department of Agriculture states that control of *anopheles* mosquitos, which convey malaria, in the bayou or streams of the Delta region of the lower Mississippi, can be largely accomplished by impounding the water in these bayous to provide a permanent lake-like level of water sufficiently high to suppress the growth of the rank aquatic vegetation which furnishes conditions favorable for mosquito breeding.

REMOVALS—Dr. P. G. Lacroix from 1211 Maison Blanche Bldg. to 1522 Aline St.

Dr. I. Tedesco from 212 Medical Bldg. to 3207 De Soto St.

Dr. Chas. Chassaignac from 211 Tulane-Newcomb Bldg. to Eye, Ear, Nose and Throat Hospital.

DIED—Dr. L. J. Violet, on Sept. 22, 1922, at Baton Rouge, La.
Dr. Andrew J. Friedrichs, on Oct. 14, 1922.

BOOK REVIEWS AND NOTICES.

All new publications sent to the JOURNAL will be appreciated and will invariably be promptly acknowledged under the heading of "Publications Received." While it will be the aim of the JOURNAL to review as many of the works accepted as possible, the editors will be guided by the space available and the merit of respective publications. The acceptance of a book implies no obligation to review.

X-Ray Dosage in Treatment and Radiography, by W. B. Witherbee, M.D., and John Remer, M.D. The MacMillan Co., New York, 1922.

This little booklet will be found useful to all roentgenologists using the X-ray for superficial treatment. The dosages are clearly presented with many different formulas, easy to understand even by the beginner.

Dr. Witherbee is well known to all X-ray workers, especially as regards the work that he has done in the treatment of diseased tonsils, and to those interested in this treatment attention is called to chapter VI, dealing with the treatment of throat infections with the X-ray. The technic used is made clear with illustrations, and can be duplicated by any roentgenologist.

The authors are to be congratulated upon the clearness of description and excellent illustrations.

L. J. M.

Principles and Practice of X-Ray Technic for Diagnosis, by John A. Metzger, M.D., C. V. Mosby Co., St. Louis, 1922.

Roentgenologists are familiar with most of the technic presented in this book. There are, however, many new and excellent ideas and suggestions offered by the author that will be found interesting and useful to both roentgenologists and students.

Attention is called to the danger of permitting an assistant to hold in place a plate or film for radiographic purposes as is seen in Fig. 17, page 52 (lateral position for cervical spine). The use of lead rubber gloves does not offer sufficient protection to be free of danger. The practice is dangerous and should be condemned.

The book is well written and profusely illustrated, and should appeal to students and operators.

L. J. M.

Text Book of Physiology for Medical Students and Physicians, by William H. Howell, Ph.D., M.D., 8th Ed. W. B. Saunders Co., Philadelphia and London, 1922.

The text of the eighth edition has lost none of the clarity of style or precision that has been notable in previous editions. In the new matter presented there will be found no fundamental change or any epoch-making discovery, but, with the possible exception of the nervous system, the book has been kept in touch with current progress.

A due emphasis and allotment of space is given each subject treated in proportion to its importance to student and physician, and it may be said that for the average graduate or under-graduate in search of physiological facts, the book is not surpassed by any as text or reference.

R. H.

PUBLICATIONS RECEIVED.

P. Blakiston's Son & Co., Philadelphia: Lateral Curvature of the Spine, and Round Shoulders, by Robert W. Lovett, M.D., Sc.D. Text-Book of Physiology, by Albert P. Brubaker, A.M., M.D., LL.D., seventh edition.

C. V. Mosby, St. Louis: Diseases of Women, by Harry Sturgeon Crossen, M.D., F.A.C.S., fifth edition.

John Wiley & Sons, New York: Animal Parasites and Human Disease, by Asa G. Chandler, M.S., Ph.D.

Harvard University Press, Cambridge: The Causes of Heart Failure, by William Henry Robey.

Solar Press, Chicago: Gonorrhea and Impotency, by Edwin W. Hirsch, S.B., M.D.

Macmillan Company, New York: Polaris, The Story of an Eskimo Dog, by Ernest Harold Baynes.

Brain Abscess, by Wells P. Eagleton, M.D.

Acute Cases in Moral Medicine, by Rev. Edward F. Burke, M.A., Ph.D.

Washington Government Printing Office, Washington, D. C.: Public Health Reports, Vol. 37, Nos. 40, 41, 42, 43.

Miscellaneous: Transactions of the American Otological Society, Vols. No. 8, part 1 and 2; No. 10, part 3; No. 11, parts 1 and 2; No. 12, part 1; No. 13, part 2; No. 15, part 3; Mercury Publishing Co. Bibliography of Hookworm Disease; The Rockefeller Foundation Report for 1921, The Rockefeller Foundation. Testicular Grafts, by Dr. Serge Voronoff.

REPRINTS.

Case of Primary Nocardiasis of the Lachrymal Gland caused by a Species of Nocardia hitherto undescribed, by J. B. Christopher-son, M.D., and R. G. Archibald, D.S.O., Major R.A..MC. Revised Method of Twilight Sleep; The Use of Scopolamin in Criminology, by E. House, M.D. Encefalitis Letárgica; La Inmunidad en las Enfermedades espiroqueticas, by Dr. W. H. Hoffman. Rêsumé of Preservation of Anatomic Dissections with Permanent Color of Muscles, Vessels and Organs, by Edmond Souchon, M.D. Public Health Nos. 736, 747, 752.

MORTUARY REPORT OF NEW ORLEANS.

Computed from the Monthly Report of the Board of Health of the City of
New Orleans, for October, 1922.

CAUSE	White	Colored	Total
Typhoid Fever	1	1	2
Intermittent Fever (Malarial Cachexia)	1		1
Smallpox			
Measles			
Scarlet Fever			
Whooping Cough			
Diphtheria and Croup	3	1	4
Influenza	7	3	10
Cholera Nostras	1		1
Pyemia and Septicemia	1	1	2
Tuberculosis	19	22	51
Cancer	27	9	36
Rheumatism and Gout	1	3	4
Diabetes	5	3	8
Alcoholism	2		2
Encephalitis and Meningitis	1		1
Locomotor Ataxia			
Congestion, Hemorrhage and Softening of Brain..	24	11	35
Paralysis	1		1
Convulsions of Infancy			
Other Diseases of Infancy	15	8	23
Tetanus	2	3	5
Other Nervous Diseases	1		1
Heart Diseases	72	38	110
Bronchitis	1	1	2
Pneumonia and Broncho-Pneumonia	21	18	39
Other Respiratory Diseases	2	1	3
Ulcer of Stomach	3	1	4
Other Diseases of the Stomach		3	3
Diarrhea, Dysentery and Enteritis	13	9	22
Hernia, Intestinal Obstruction	2	1	3
Cirrhosis of Liver	5		5
Other Diseases of the Liver	2	2	4
Simple Peritonitis			
Appendicitis	7	3	10
Bright's Disease	24	16	40
Other Genito-Urinary Diseases	1	4	5
Puerperal Diseases	5	5	10
Senile Debility	4	1	5
Suicide	2		2
Injuries	12	6	18
All Other Causes	26	25	51
Total	324	199	523

Still-born children—White, 27; colored, 27; total, 54.

Population of City (estimated)—White, 295,000; colored, 110,000; total, 378,000.

Death rate per 1000 per annum for month—White, 13.18; colored, 21.71; total, 15.51. Non-residents excluded, 13.35.

METEOROLOGIC SUMMARY (U. S. Weather Bureau).

Mean atmospheric pressure 29.94
Mean temperature 72
Total precipitation 3.25 inches
Prevailing direction of wind—northeast.

NEW ORLEANS MEDICAL AND SURGICAL JOURNAL

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ORIGINAL ARTICLES.

(No paper published or to be published in any other medical journal will be accepted for this department. All papers must be in the hands of the Editors on the tenth day of the month preceding that in which they are expected to appear. Reprints may be had at reasonable rates if a WRITTEN order for the same accompany the paper.)

ACUTE OSTEOMYELITIS IN CHILDREN, WITH REPORT OF CASES.*

By DRS. J. C. WILLIS, SR., and JR.

Acute infective osteomyelitis is one of the most common, serious, surgical diseases incident to child hood, and by far the most important and most common acute inflammatory disease of bone. Nevertheless, it is one of the few surgical affections in which there has been little or no progress made in the diagnosis and treatment within the past twenty years, for it is still being diagnosed and treated as acute articular rheumatism, poliomyelitis, or some other painful disturbance of the limb or joint until the opportunity for effective primary treatment has passed when, as a matter of fact, if we are to obtain the desired results in these cases, there should be no delay in making a diagnosis, if possible, and instituting proper surgical treatment for their relief.

Unfortunately, the X-ray, that has done and is still doing, so much in assisting us in making diagnoses in practically all other bone injuries or diseases, is of no value to us as a diag-

*Read before the Louisiana State Medical Society Meeting, April 11-13, 1922.

nostic measure in this affection at a time when it is extremely important that a correct diagnosis should be made. In fact, an X-ray examination may result in actual harm, as it certainly will, if its findings in this affection in its early stages are depended upon, for such dependence is false security and causes valuable time to be lost when it couldn't be afforded; for to wait until there is bone destruction with the accompanying abscess formation of the soft parts is not making a diagnosis of the disease but its destructive results, and no case, if it can possibly be avoided, should be allowed to reach this stage before operative measures are instituted.

To emphasize what I have just said I need only to call your attention to the paper of Pfeiffer which he recently read before the Philadelphia Pediatric Society. In this paper he epitomized and emphasized the problem very completely in making the statement that in a series of thirty-five cases taken from the records of the University Hospital there was a mortality of 14.3% and that a number of others were desperately ill; and excluding the cases that died, the average duration of treatment in the hospital was five months. He stated further that notwithstanding this prolonged treatment only four left the hospital cured, the others being sent either to the seashore or to their homes to be treated as ambulatory cases. In this series more than one-third had been erroneously treated before admission to the hospital, six for acute rheumatism, four for abscess, one for dislocation, and one for fracture. When we consider that this record is from one of the largest and best appointed hospitals in a medical center like Philadelphia it is very evident that either the diagnosis is extremely difficult or that the profession is not acting on the knowledge that acute osteomyelitis is an emergency surgical condition. Evidently the most frequent and serious error is to consider the affection as a disease of the joint or soft parts and treat it as a medical case until it is too late for proper surgical interference. This, no doubt, is due to the fact that a large proportion of the infections have their beginning in the epiphyseal end of the long bones so near the joint that it could very easily be mistaken primarily for an infection of the joint, when, in reality, the epiphysis is practically never primarily the infected point but, unfortunately, frequently becomes the victim of neglected or badly managed cases; for these are the ones in which

the epiphysis ultimately becomes seriously involved and leaves the patient a permanent cripple provided, of course, he escapes with his life.

Acute osteomyelitis is pre-eminently a disease of childhood and is an acute suppuration of bone due to the lodgment and growth of pyogenic organisms in the bone marrow; and while it prefers the diaphysis of the long bones near the epiphysis no bone of the body is exempt.

And in considering the etiology, while unquestionably the disease is always an infection, one must speak in terms both of infection and immunity, as no doubt, like many other infective diseases, the depression of the immune forces of the body plays a considerable role in predisposing to the attack. To just what extent this is true we are unable to estimate, as many cases are observed in children who are apparently in good health at the time of infection. Of course, this may be more apparent than real as there may be some temporary or transient depression or a natural weakness of immunity of which we have no way of knowing, but unquestionably osteomyelitis is a hæmatogenous infection and bacteria must precede localization, and as pointed out by Pfeiffer in his admirable paper, "the source of the bacteria in many cases may be surmised with a great degree of probability," and he mentions as antecedent conditions of apparent importance "tonsilitis, pharyngitis, bronchitis, influenza, pneumonia, gastric and enteric disturbances, pustular conditions of the skin and minor infections of transient origin." And he further states that in his opinion "many of the febrile disturbances of children which are of short duration and usually not dignified by a diagnosis excepting a popular tag for family consumption are associated with a transient bacteremia, for it has been demonstrated that bacteria enter the circulation much more frequently than was formerly supposed." Under these primary conditions we can very well understand how the infective agent under favorable conditions may find lodgement and a suitable culture medium for its growth and development.

Almost any organism may be found in osteomyelitis but the large majority of cases are due to the presence of pyogenic cocci, and the most common infecting micro-organism is the staphylococcus aureus, more rarely the albus and citreus and occasionally the streptococcus, which alone or in combination with the staphy-

lococcus, produces the most virulent and destructive types. Certain conditions would seem to induce local implantations of the circulating infective agents. One of the most common, no doubt, is trauma. In the Pfeiffer series of cases 43% gave a direct history of traumatism, usually not an injury of sufficient force to fracture the bone but a sudden force with quick deformation of the medullary arches can injure and even fracture these delicate supports without fracturing the cortical bone thus lowering the resistance at the point of injury.

Faulty nutrition, exposure to cold, and extreme fatigue must also be considered as factors in preparing the soil while previous infections, especially the exanthemata, typhoid, pneumonia, etc., often provide the invading organisms. It is much more common in boys than in girls which would naturally tend to emphasize the importance of trauma as an etiological factor in producing the disease. And while no bone is exempt, it is usually one of the long bones, preferably the lower end of the femur; the next in order is the tibia, the infection of these two predominating over all others. According to Peters out of a total of 1,250 cases tabulated nearly 900 were instances in which the femur and tibia were involved. Next in frequency with these bones in the order named were the humerus, the radius, the fibula, the pelvis, ulna and the lower jaw. And while there may be some difference of opinion in regard to the point at which the disease commences its manifestations, some contending that the medulla is the point of primary infection, and others that the infection commences in the cancellous tissue on the expansive extremities of the long bone near the epiphyseal line, regarding the main features of the pathological anatomy of acute osteomyelitis all authors and writers are practically agreed. Even though the extreme end of the bone near the epiphyseal line may be the point of primary infection evidently there is practically a simultaneous involvement of the bone marrow and the suppurative process assumes distinct characteristics because of the anatomical peculiarities of the tissue involved. Its virulence and extensive ravages are inevitable when we consider the nature of the infection, the kind of tissue affected, and the dense bony walls which imprison the products of supuration.

Naturally, the question arises: What are the leading characteristic symptoms of this affection? Certainly not the symp-

toms so often described and looked for, namely: Redness, swelling, superficial tenderness and fluctuation; for these are not the symptoms of acute osteomyelitis, but its complications and the results occurring only after the inflammatory process has broken through its bony confines and extended to the soft parts, and there can be no improvement in our present treatment and end results until we learn to diagnose the affection and not its disastrous results. Pain, perhaps, is one of the most common and consistent early symptoms, its peculiar characteristic in this condition being that it is neither superficial nor definitely localized at first but of deep burning sensation definitely increased by persistent pressure over the infected area. Sheldon, in a most admirable paper on the diagnosis of this affection emphasizes the importance of tenderness over the suspected area during the primary stop which can be elicited only by deep pressure when after a few seconds the pain suddenly becoming very intense.

Another important symptom is loss of function in the affected limb which is usually pronounced from the very beginning, the slightest movement being accompanied by extreme pain. The temperature rises rapidly to a high point, 103 to 105, and is of a continuous type with little or no variation, and white blood count shows invariably a marked leucocytosis.

Among the affections from which acute osteomyelitis must be differentiated, no doubt acute articular rheumatism is the one with which it is most often confounded for the reason that these affections in their acute stages have a number of symptoms that are more or less common to both; but in making a differential diagnosis we should bear in mind that osteomyelitis is primarily extra-articular, with a single point of infection, while acute articular rheumatism is an inflammatory involvement of the articular surfaces within the joint and is usually multiple.

Acute poliomyelitis as it appears in children is another affection which must always be considered and excluded as far as possible in making our diagnosis. To quote Sheldon, however, "It is not often that poliomyelitis is diagnosed as osteomyelitis but many times the reverse is true; in the acute stages they have many symptoms in common and quite frequently they are confused."

As stated in the beginning, the X-ray is of little or no value to us in the critical stage of this affection except possibly in a negative way, as it may confirm the presence of a periosteal, tubercular or syphilitic disease or fracture.

The prognosis of acute osteomyelitis is always grave both as to life and limb, and it has been truly said that once the diagnosis is made it is the most surgical of all surgical diseases. Surgical interference should not only be prompt but should be complete. It is never expedient nor justifiable to simply incise the soft parts and periosteum; the canal should be opened freely so that the drainage may be complete; all dead and infected bone should be chiseled away and all pus and infected marrow should be removed with a bone curette; small perforated drainage tubes should be placed in position for flushing if needed, preferably with Dakin solution, and the wound packed with washed iodoform gauze, and external dressings and bandages applied. In many of the acute cases, on direct inspection, the trouble will appear to only affect the periosteum which will be found to be thickened and edematous, and separate very readily from the shaft of the bone, but the real trouble is in the medullary canal and should be treated accordingly.

SUMMARY.

1. There is no disease of which it can be said more truly that the treatment is wholly surgical; medical treatment of the patient may be required, but not of the disease itself.

2. The earlier the operation the better the outlook for life and limb.

3. The essential object of surgical treatment is prompt and efficient drainage of the affected medullary cavity.

4. Present experience shows too often errors in diagnosis, delay in treatment, and insufficient primary operative procedure.

Case 1. H. B., age 11, female, white.

Complaint: Pain in left leg below the knee.

Past illness: Usual diseases of childhood. Had pneumonia five years ago. Tonsils removed two years ago.

Present illness: On February 3, 1922, while at school, leg began to pain her and the same evening became chilly and fever developed. Fever ran as high as 104 degrees Fahrenheit. During this time it never left her entirely. Leg continued to pain her severely. Entered the hospital February 9, 1922.

Physical examination: Temperature 104, pulse 130, respiration 22. Well developed child. Head, chest and abdomen negative. Extreme tenderness over tibia just below the knee. No redness or

swelling present. Urine negative. Leucocyte count 18,500. X-ray examination was negative for bone disease.

Operated upon the day of entrance. During the operation the periosteum was closely adhered to the bone. No evidence of bone destruction could be detected by the eye, but when a hole was drilled in the tibia small particle of pus began to exude. Extirpation of anterior surface of tibia was performed and wound packed with iodoform gauze.

Following the operation the fever ran high for three days, then it gradually began to subside and on February 16 it had entirely disappeared. On March 8, 1922, we decided to curette the granulation tissue to let a blood clot form, thereby hastening the process of closing the wound. Following this procedure we had splendid results and she was eventually dismissed from hospital as ambulatory case March 22, 1922.

Case 2. F. G. H., age 4½ months, male, white.

Complaint: High temperature with pain and swelling in right forearm.

Past illness: Always been healthy.

Present illness: Became ill January 8, 1922, with high temperature and pain evidently in right forearm with loss of function. Fever and fretfulness persisted with rigidity and lack of movement in affected forearm.

Physical examination: Temperature 103, pulse 138, respiration 24. Child large for his age and well nourished. Heart, lungs and abdomen negative. Right forearm slightly swollen and very painful. Any movement or change of position causes him to cry out. Pain and swelling appeared to be more marked over the ulna near wrist joint. X-ray examination was made January 11, 1922, and report showed negative for bone disease. Notwithstanding X-ray report, operated upon January 13, 1922. Found ulna was hard, dry and a portion of it was necrosed. After removing necrosed portion a small amount of pus exuded. Wound packed with iodoform gauze in usual manner.

Following the operation the patient's temperature gradually subsided and disappeared on the fifth day. Also the discharge ceased on the seventh day. The child left the hospital January 21, 1922.

On January 23, 1922, the patient re-entered the hospital manifesting the same symptoms that he originally had, except the redness, swelling and tenderness were more marked. We re-operated upon him shortly after his entrance and excised the whole shaft of the ulna, leaving only the epiphyseal ends of the bone with periosteum intact. Following the last operation he made a very satisfactory recovery. He continued to do well until February 2, 1922, at which time he developed a pocket of pus on the radial side of the forearm. This was incised and a small wick drain left in for four days, after which it readily healed.

Four weeks after the excision of the shaft of the ulna an X-ray picture revealed that the shaft of the bone had entirely re-formed. When last seen, April 2, 1922, the wound had entirely healed.

Case 3. C. E., age 10, male, white.

Complaint: Pain in right leg below the knee.

Past illness: Usual diseases of childhood; always been unusually healthy child.

Present illness: On awakening April 2, 1921, noticed a pain in right leg. The following evening pain became very severe and temperature rose to 103 degrees F. At this time the pain in leg had become very intense. He gave no history of trauma.

Physical examination: Came under our observation April 7, 1921, five days after onset of attack. Temperature 103, pulse 130, respiration 20. Fairly well nourished child. Head, chest and abdomen negative. The right leg below the knee was slightly swollen and tender on deep pressure, and was apparently more marked over tibia. Urine negative. Leucocyte count 16,500. X-ray plates had already been made April 4, 1921, and reported negative for bone disease.

He was operated upon the evening of April 7, 1921, and during the operation found that the periosteum had become separated from tibia and contained about a half pint of pus. The bone was badly necrosed, as very extensive involvement of bone had already taken place. After extirpating a great portion of the tibia it was packed with gauze and closed in the usual manner. Following this operation his temperature slowly subsided and completely disappeared during the last week of May. On June 2, 1921, his fever began to reappear. On the fifth of June we decided an X-ray was necessary. X-ray plate revealed irregular area of bone destruction and bone production extending from the lower epiphysis to middle of upper third of right tibia. We operated again June 6, 1921, and curetted out the whole lower shaft of the tibia, leaving only the new bone shell and distal epiphyses intact. Following this last operation his recovery was so satisfactory that he was dismissed from hospital June 20, 1921.

Case 4. Baby H., age three years, female, white.

Complaint: Pain in left leg and right shoulder.

Past illness: Usual diseases of childhood.

Present illness: On January 24, 1922, the child fell and injured left leg. A few days following complained of pain in left leg which gradually grew worse. High temperature was marked and continuous. On February 14, 1922, right shoulder began to swell and became very painful.

Physical examination: Came under our observation February 16, 1922. Temperature 102 F., pulse 104, respiration 22. Child very emaciated. Heart, lung and abdomen negative. Left leg below the knee swollen. Small stab wound leading from tibia which constantly drained pus. Right shoulder, particularly over the deltoid muscle, was swollen and contained pus.

The shoulder was incised immediately on entrance to hospital and a large quantity of pus drained off. An incision over left tibia was increased, giving it freer drainage. Child's condition would not permit of more radical procedure. Child did fairly well for three days.

On February 20, 1922, patient began to discharge pus from both nostrils. On February 23, 1922, it developed characteristic symptoms of septic pneumonia. From then on it gradually grew worse and died March 5, 1922, of septic pneumonia.

DISCUSSION.

Dr. E. M. Ellis (Crowley, La.): I am very much delighted to hear this very exhaustive paper of Dr. Willis, because it deals with a subject that frightens to death the parent and the patient. To my mind there is no disease, as he has so clearly stated, that the doctor should be so prompt in dealing with radically. It has been my misfortune to see quite a few of these cases and quite a number of them to die. Of course, we see the cases late, often when they are in a moribund condition, especially children, but I think we as surgeons and physicians should be taught throughout the country that whenever a child has an acute pain in its limb, high temperature, rapid prostration, that a tentative diagnosis of osteomyelitis should be made, and as Dr. John B. Murphy so well stated, if you cannot do anything

else make an opening in the bone and let out the infection and probably save the child's life until it can have further surgical aid. If you have an infection of the femur, your prostration and intoxication is much more profound than in any of the other long bones. Whenever you have these symptoms at once proceed to make an opening in the bone. If it is properly done you have done no harm, but by all means as soon as the patient presents these symptoms go ahead with your surgical interference and you will very often save the child's life, whereas if you put off from twenty-four to forty-eight hours the patient will be overcome by the toxemia and it will be too late.

Another point is that while dealing with these cases surgically, if you have a patient brought to you who is overcome by the toxemia, as most of these cases are, do not try to do too much at one time. They do not bear surgical shock well, and if you undertake to make too radical an operation the first time you will lose your patient from shock. Go as far as you can safely the first time, because these cases nine times out of ten have to be repeatedly operated. Then later, as the patient recovers from the toxemia, continue the operation until you have succeeded in eradicating the infection. Do not forget that while you are dealing with an osteomyelitis in one bone, you often have a metastasis in another. I have had three such cases lately, so do not let it go too far. Then deal with these metastases just as you did with the original infection.

Dr. Peter B. Salatic (New Orleans): These cases suffer from violent toxemia and should be treated the same as a bad appendix. Do it under a local anesthetic. It is surprising how much you can do with young children under a local. Open the bone, allow the infection to subside, and then after the general toxemia and the necrosis going on has subsided, do your radical operation.

Dr. W. S. Rutledge (Ruston, La.): I think one of the main points is early diagnosis—that is a most important point. Of course, treatment is important, but early diagnosis, I think, is even more important. I have had quite a few cases myself and that is always the feeling I have had. I will never forget the first case I had, and if I had only diagnosed that case properly at first, it might have lived; but I waited too long. I think the main point is early diagnosis.

Dr. T. E. Wright (Monroe): Two points Dr. Willis brought out relative to location as well as to treatment. The location which predisposes to a diagnosis of acute articular rheumatism is the location just below the epiphysis in the area between the epiphysis and the shaft of the bone, in the comparatively avascular zone of the bone. The head of the bone is supplied by the metaphysial arteries, whereas in the shaft blood supply comes from the nutrient arteries. This zone just below the metaphysial area is comparatively avascular and is the original seat of infection.

In the treatment of this condition I do not see how a local anesthetic could be used, because, primarily, you are dealing with the child and, secondarily, you have to deal with a radical condition. Too much can be done as well as too little. Packing can be overdone which would predispose to lack of drainage and in a sense help out your metastatic process, not only through the bones, but also in the lung, under the skin, and in as many as six other bones.

Relative to the destruction of bone tissue during the primary process, ample drainage is to be held in mind. Some authorities have advised opening the bone by drill hole openings, but that will not work in all cases. Ample drainage with removal of not too much necrotic bone, a thorough washing out with Dakin's solution, will often be all that is necessary and that necrotic bone will offer a good framework for your new bone tissue to develop on.

Dr. J. C. Willis (closing): One thing on this point I wish to emphasize and that is, that the primary operation should be both as early and as complete as possible; at least as complete as may be necessary to meet the conditions of any given case. Of course, we should not unnecessarily jeopardize the lives of our little patients, but at the same time we should bear in mind that if a diagnosis is made early enough and the complete operation is done at the beginning there will be no necessity for any secondary operation, and that is the gist of the whole matter. Now, in regard to the question raised by Dr. Wright in reference to the circulation of the various parts of bone, it has been demonstrated that in the long bones of children the circulation has been divided into three groups, viz.: the diaphyseal, the epiphyseal and the metaphyseal. The group ascribed to the diaphysis draws its supply from the nutrient artery and terminates near the epiphyseal line without anastomizing directly with either of the other groups. And the arteries supplying the epiphysis, on the contrary, are derived from the various main trunks and these terminals do not communicate freely with the others, and the vessels composing the metaphyseal group are smaller and shorter than the others and enter the end of the shaft near the end of the diaphysis, with the same terminal characteristics as the others. Consequently each part is fairly independent of the others so far as circulation is concerned.

GLANDULAR FEVER.*

By S. CHAILLE JAMISON, M.D.

Introduction: This disease was first described by E. Pfeiffer in 1889, and was regarded by him as a distinct entity. Since that date, descriptions have appeared in the literature of Germany, France, England and the United States. The condition is not described in any of the prominent text books on medicine, although it is frequently mentioned where any of the adenopathies are described.

Definition: Glandular Fever is a disease of the lymphnodes, usually involving single groups of glands, such as the cervical, though more than one group may be involved, and occasionally all of the lymph glands of the body. The etiology and pathology are as yet unknown. It is more frequent in children than in adults.

Distribution: In all European countries and in North America the disease has been recognized and appears to be as common in cold as in warm climates.

Sex: Males and females equally affected.

Age: It is more common in childhood, but occurs frequently in young adult life and in late middle life. Cases in the aged have not been described.

*Read before the Louisiana State Medical Society Meeting, April 11-13, 1922.

Pre-disposing Causes: There seems to be no particular reason for outbreaks of this disease. Epidemics have been described and it may be more than coincidence that attention and interest have been aroused following the two great pandemics of Influenza; however, as the pre-disposing causes of Influenza are unknown, this sheds no light on the cause leading to Glandular Fever.

Etiology: It has been claimed by many competent observers that almost as many different organisms cause Glandular Fever. Pfeiffer claimed to have isolated the Influenza bacillus from the glands and blood of patients suffering with this disease. In more recent times, the streptococcus has been cultivated from macerated glands, also pneumococci, dyptheriod bacilli and staphylococci. These conflicting reports force us to believe that the specific agent, if there be one at all, has not as yet been demonstrated.

Pathology: No definite pathology has been reported. Of course, chronic and acute inflammation have been frequently observed. In dealing with the adenopathies from the histological standpoint, we must bear certain facts in mind. The pathology of various glandular enlargements is only partially known; for instance, acute and chronic lymphatic leukæmia, Hodgkins' Disease, and that only where Dorothy Reed cells are present, *i. e.*, rather late in the disease, lympho-sarcoma, carcinoma, tuberculosis and syphilis, and that where these diseases cannot be definitely recognized, histology has reached its present limit. That the diseases mentioned above can be definitely recognized and excluded, is of enormous importance and value in the diagnosis of Glandular Fever. Except for the lymphatic glands, the other organs and tissues of the body seem singularly free of pathology except the kidneys, which are always involved by a sub-acute nephritis in the later stages of the disease.

Symptoms: Synonymous with early enlargement, pain and tenderness, of certain groups of lymph glands, there are the constitutional symptoms of malaise, fever, slight chilly sensations, anorexia, usually constipation; the glands involved are, first in order of frequency, those of the cervical region, particularly the group lying anterior to the sterno-cleido-mastoid muscle. These may be involved either bilaterally or unilaterally, the latter predominating. These are followed by enlargement of the

axillary glands, either on one or both sides. Rarely are the axillary glands of the opposite side involved when only one side of the cervical glands are diseased. Very much less frequently the inguinal and femoral glands are affected without other involvement, and lastly, general lymphatic enlargement has often been observed. Where any of these groups of glands are involved, it is essential to exclude any focus of infection, for we know that the lymph glands are the first line of defense against the dissemination of infection from a focus. When the cervical glands are involved, tonsillitis and oral sepsis must be carefully excluded. Where the axillary glands are involved, any infection of the upper extremities must be excluded, and where the inguinal and femoral glands are enlarged, infections of the genital organs and of the lower extremities must be excluded.

A rare form of this disease is described as involving the mediastinal or the retro-peritoneal glands, or both. Where all of the glands of the body are involved, it would appear to be almost impossible to include foci of infection. It is common for one group of glands to become involved, the local and constitutional symptoms to subside, this to be followed by the involvement of further groups of glands, the return of the local and constitutional symptoms. This may continue until all of the glands of the body have been involved.

Temperature: Temperature is of an intermittent type, which may be at times as high as 103-104, and may last anywhere from a few hours to weeks or months. In the long continued forms, the febrile reactions occur in waves, presumably coinciding with an extension of the disease to other glands.

Blood Picture: The hemaglobin and red cell count show a moderate secondary anæmia while the white cell count demonstrates an increase in the number of white cells, varying from 11,000 to 25,000, with usually a moderate increase of the lymphocytes, usually not over 50% or 60% however, and never approaching the high figures of lymphatic leukæmia. No abnormal cells are present in the blood smear. In glandular fever, suppuration never occurs, and should it occur in a suspected case, the diagnosis of Glandular Fever cannot be made.

Diagnosis: Enlargement of the cervical glands is frequent with tonsillitis and apural sepsis, and it is entirely unjustifiable to diagnose Glandular Fever if these conditions exist, unless they are corrected and the glandular enlargement persists. I have

seen cases, and several have been reported in the literature, occurring in subjects whose tonsils had been removed and in whom dental examinations had excluded oral sepsis. The same is true of involvement of the inguinal and femoral glands, and the difficulty of excluding sub-acute infections in the female pelvic organs is too notorious to need comment. Before any glandular enlargements can be placed in the category of Glandular Fever, Hodgkins' Disease, Leukæmia, Tubercular Adenitis Malignancy, Plague and Syphilis must be excluded. Leukæmia can usually be excluded by the blood picture; Tubercular Adenitis by the physical examination; syphilis by the history and blood examinations; plague by cultures taken from the glands. The final diagnosis, however, must be made in the vast majority of cases, by the excision of a superficial gland and histological examination of this tissue; then, if those diseases which can be definitely recognized by the microscope are not present, a diagnosis of Glandular Fever may be literally forced upon us. It is evident then that a final diagnosis of Glandular Fever must rest on careful exclusion of all recognized adenopathies. It cannot be too strongly emphasized that unless a histological examination is made, the diagnosis of Glandular Fever is not justified, and as the removal of a small gland is a simple matter, and examination of the same available to all, it would appear that this is an easily surmountable obstacle.

The diagnosis of Glandular Fever where the mediastinal and retro-peritoneal glands are alone involved, presents great difficulties as a mere demonstration of enlargements of these glands by palpation of the abdominal glands or X-ray of the mediastinal glands means nothing more than the pure anatomical fact that they are enlarged and it appears to me that only a tentative diagnosis is possible until the outcome of the case is known, recovery only partially confirming the diagnosis, while if death occurs, only an autopsy can prove the case.

Prognosis: The great majority of cases run a mild course, with recovery in from three to ten days; more chronic cases, with involvement of all or many of the lymph nodes may continue for months, but end usually in recovery. Occasionally a case is fatal.

Treatment: The treatment is purely symptomatic. The glandular enlargements are best treated by the local application of the ice bag or cold compresses, and painting with tincture

of iodine may do good. The usual methods for combatting pyrexia are indicated. It is important that the patient be well nourished; there are no indications for a special diet. Constipation is frequent and requires rigid attention, and it would perhaps be of great help if the flora of the intestinal canal could be changed as it is possible that the causative organism is absorbed via the lymphatics from the intestines.

Conclusion: Glandular Fever may be regarded as a syndrome, but certainly the facts do not appear to justify its classification as a disease entity. It will serve as a convenient and orderly filing place for those adenopathies which are at present unrecognized. Unquestionably in the years to come, as our knowledge of the lymphatic system and its diseases increases, Glandular Fever will probably have no place. At the present time, it appears to supply a great gap in the clinical knowledge of diseases of the lymph glands, and to furnish a satisfactory index for prognosis and treatment.

MEDICAL SOCIAL SERVICE FOR THE CHILDHOOD OF LOUISIANA.*

By MAUD LOEBER, M.D., New Orleans.

With the advent of specialization in medicine, the doctor has had less and less opportunity to come in contact with his patients in their homes. Doctor Cabot of Boston, the pioneer in social service, has happily pointed the way to the solution of this difficulty through social service agencies in hospitals; and the war has taught us how to utilize the Red Cross public health nurse and the public health nurse in cases not primarily falling under hospital care but treated rather in the community at large.

At this time one cannot value the good which these agencies will do in a community, not only now, but for the next generation, and those succeeding. Let us for a moment give a brief outline of the service which each can render to the patient and physician and incidentally to the public welfare.

In hospital work the social service department, through its trained social worker, preferably a trained nurse with social service training, to do that part of the work as originally suggested by Dr. Richard Cabot. Such service includes the rounding out of a complete history, the home life, environment and

*Read before the Louisiana State Medical Society Meeting, April 11-13, 1922.

daily routine of the patient, which data frequently is not readily secured in clinic or hospital cases. To illustrate: In the case of a nervous child, it is essential that one should know the life; the persons he comes in daily contact with; his home and school obligations; his daily personal habits, as regards regularity, diet recreation, work, diversion and rest, and to determine whether they are all that they should be.

A visit to the doctor's office or out-door clinic can hardly give the doctor the essential information required on this case, but the services of an intelligent social worker can give the desired and essential data on which the physician can complete his diagnosis and outline his method of treatment.

Recently in the out-patient department of one of the hospitals of New Orleans, a baby was brought by its mother for "swollen and bleeding gums." The case, an 8-months-old negro baby, presented clinically a case of scurvy, yet the mother claimed to have included the juice of half an orange in the baby's diet daily, since the baby was 6 weeks old. A visit of the social worker revealed the facts. The mother was compelled to leave her baby with a neighbor while she worked out, and from the neighbor we learned that she had fed the infant exclusively on a concentrated condensed milk formula which she administered at irregular times and in varying quantities; that the mother had occasionally brought home an orange for the baby, but not since she, the neighbor, had taken care of the baby, which had been for several months, and during that time the baby had not had orange juice as a part of its diet. Now, with this information and the co-operation of the neighbor, the doctor at the clinic was able to reach a conclusive diagnosis, and with a corrected diet the baby made a rapid and uneventful recovery.

Such examples could be multiplied but these two suffice to illustrate the topic under discussion.

You have in your midst the same social service material to work with as we have in the City of New Orleans, and it is to your advantage that you utilize these agencies that now exist. If you are not then you are derelict, for their services are yours for the asking.

The school nurse, the public health nurse, the Red Cross public health nurse each can be and are made such valuable aids to the physicians who are dealing with children not reporting to the hospitals for treatment.

Social service can be utilized in other ways as by following up the mother at home; by supervising and making modified milk formulas or special diets; or by supervising hygiene and sanitation in the care of the baby or child under treatment; or by encouraging regular visits to the doctor or clinic, and securing co-operation of the parents in obtaining proper laboratory tests to aid in diagnosis. If the disease is contagious, suggesting the proper prophylaxis; proper living conditions for the patient and other members of the household; and regulating and directing the patient's relationship with the other members of the family.

In case the child is in a hospital ward, the social worker attempts to get in touch with the family whether in a rural community or city. They ascertain whether the home environment and care is consistent with the complete recovery of this patient.

In the case of the Red Cross public health nurse and the public health nurse, it is often a matter of education of the family. This is accomplished most satisfactorily by mothers' meetings, better baby conferences and the like, where instruction to the mothers on the care of the baby can be made a valuable asset to the local doctor who is more than anxious to practice preventive medicine and willing to co-operate in organizing these meetings on health, where he may add some points on contagious diseases—their prevention and the results of ignoring health matters. These meetings are preceded and followed by visits of the social worker to the home for the purpose of encouraging the mother and father to attend the health meeting to stimulate their interest in the advice given by the doctor or doctors conducting them.

The social workers and social agencies can aid in stimulating not only enthusiasm for special meetings but also rounding up those most neglected cases which do not seek the advice of the doctor. They can feature special clinics where the co-operation of specialists can be secured, as dentists, orthopedists, oculists, aurists, and rhinologists, and the like, who will help not only in relieving those already afflicted with a corrigible or incorrigible defect, but by aiding the medical profession in securing the co-operation of the parents and children in the greatest of all health measures—prophylaxis—and obtain medical advice and treatment in cases in their incipency.

Boards of Health and School Boards are alive to the good which can be accomplished along this line, hence the nurse attached to the board of health whose function it is to do follow-up work, and the work of the public school nurse is too familiar to all to need further emphasis here.

It is no surprise to those of us who are dealing largely with social welfare work that in this the newer field on medical preventive work there should already be specialized work among the welfare nurses, and we find the tuberculosis nurse or social worker, the cardiac nurse or social worker, the psychiatric nurse and social worker, the baby or children's nurse and social worker, and in this group not the least among them are those who are specializing in the play movement; for in this last mentioned field is one hardly touched and certainly not fully appraised so far as its effect on the development of character training is concerned in addition to its relationship to health.

We who are practising among the children should be on the lookout to utilize more fully this splendid asset in the armamentarium of medicine, for surely we need this phase to aid us in adequately accomplishing our results in this age of specialization.

DISCUSSION.

Dr. F. J. Kinberger (New Orleans): There is no doubt that the medical man can get but little co-operation from his patients unless he has their full confidence. The same applies in child welfare work—unless the confidence of the patient is obtained we do not get results. A good social service nurse can do wonders in the home correcting formulae, outlining better hygienic rules, and looking after the patient in general. I feel that I can add nothing to Dr. Loeber's paper, except to say that she has stressed several points not only of vital importance to the physician alone but also for the general betterment of the community as a whole.

Dr. E. D. Martin (New Orleans): This education we have been carrying on for some years has probably developed into greater good than we can imagine. If it is doing nothing else it is bringing home to these people the necessity of hygiene and the importance of early diagnosis in the care of children. I do not suppose there is anyone in the state who is better equipped to speak on this subject than Dr. Loeber. For years she has taken care of this work in hospitals and asylums and we know that things she speaks of come from long personal experience. While I do not do general practice I have come in contact with people who have felt grateful for the kind words and education that is being carried to the homes. Among our poorer classes, among the people who have to work day and night and who have little time to read for social amusement, they are perfectly willing and glad to learn, but they have never had opportunity, and when a thing is carried to them in a practical way they at once take up the idea. I believe this work should be assisted in every way possible. People want education today. They are no longer willing to accept the doctor's word without any reason, but

the great thing to do is to open the eyes of these people to the necessity of taking advantage of this opportunity.

Dr. Maude Loeber (closing): I want to thank the doctors for bringing out the points that they have stressed. Dr. Kinberger has had experience along the line of welfare workers and he knows the need of them. In Dr. Martin's discussion I would like to emphasize the desire on the part of the social workers to have those physicians who are not in cities call on the public health nurses. The people at large are anxious to know something of hygiene and sanitation, and would welcome the visits of the health nurse in connection with those of the doctor. They will read a magazine that carries a page of health notes, and I think if the doctors of Louisiana at large would call on these nurses and co-operate with them the meetings they plan for the education of teachers and parents and the like they would find that the social worker has a real place among the medical men.

HYPER-EMESIS GRAVIDARUM, WITH REPORT OF CASES.*

By THOS. B. SELLERS, M.D., F.A.C.S., New Orleans, Louisiana.

Vomiting of pregnancy is divided into two types,—toxic and psychic, or reflex. It is important but very difficult to differentiate between the borderline cases.

In the true toxemic cases, there are evidences of disturbed metabolism in the blood and urine, upon which a differential diagnosis may be based. Williams was the first to show that the urine from such patients presents a high ammonia coefficient which indicates that a much larger portion of total nitrogen is excreted in the form of ammonia than usual; normally, four or five per cent; in toxic vomiting, from twenty to fifty per cent. Blood changes show non-protein nitrogen greatly increased above normal; urea-nitrogen, normal or slightly decreased.

Autopsy findings show extensive pathological changes, in the vital organs, such as central necrosis of the liver lobule and fatty degeneration of the peripheral cells. Pathological changes in the kidneys vary greatly from a simple exudate to a severe parenchymatous nephritis. Hemorrhage into the serous cavities and mucous membranes was observed in isolated cases.

These pathological findings should be sufficient to impress upon us the gravity of a true toxemic case and should also emphasize the necessity of an early diagnosis.

The French report a 30% mortality. Of course, the mortality varies greatly in the different clinics. The Charity Hospital records show a mortality of 43.75% for the past three years, tabulated as follows:

*Read before the Orleans Parish Medical Society, October 9, 1922.

Name	Duration of Vomiting	Duration of Pregnancy	Temperature	Medication and Treatment	Date of Admission	Days in Hospital	Results	Remarks
W. Mrs. W.....	4 mo.		103-98	Ovarian Ext. Corpus Luteum, Morphine Bromides, C. C. Pills, Chloral, Strychnine.	4-24-19	32 da.	Died	Packed but died before delivery.
W. Mrs. M.....	12 da.	3½ mo.	100.5-99	Pituitrin, Ovarian Ext. 60-gr. a day; Magnesium Sulphate.	7-24-19	27 da.	Improved.	Did not vomit 4 days before discharge.
W. Mrs. S.....	7 wk.	4 mo.	99-98	Sod. Citrate (Mouth), Glucose-Sod. Bicarb. (Drip).	2-15-20	19 da.	Improved	Did not vomit 4 days before discharge.
W. Mrs. T.....	3 wk.	4 mo.	102-98	Sod. Bicarb. Glucose by drip; Ovarian Ext. Pur-gatives, etc.	11-19-20	32 da.	Died	Pulmonary Tuberculosis.
C. Mrs. G.....	3 wk.	3 mo.	103-98	" " "	2-6-21	27 da.	Died	Pulmonary Tuberculosis, Syphilis.
W. Mrs. S.....	2 wk.	3 mo.	101-98	" " "	2-6-21	37 da.	Not Imp.	Deserted; vomiting day left hospital.
W. Mrs. C.....	2 wk.	3 mo.	100-98	" " "	4-15-21	35 da.	Cured	
W. Mrs. G. C.....	2 mo.	3 mo.	101-98	Calomel (Mouth), Glucose, Sod. Bicarb. (Drip).	5-12-21	10 da.	Improved	Deserted; Goitre (toxic).
W. Mrs. S.....	3 wk.	6½ mo.	103-98	Routine treatment.	6-26-21	13 da.	Deserted	
W. Mrs. M.....	6 wk.	3 mo.	100-98	Sod. Bicarb., Glucose, Bromides (Drip).	8-30-21	20 da.	Improved	Vomited every pregnancy; Nephritis.
W. Mrs. G. S.....	2 mo.	3 mo.	100-98	Sod. Bicarb. (Flush), Bromide (Drip).	3-2-21	16 da.	Improved	
W. Mrs. E.....	?	3½ mo.	103-98	Sod. Bicarb., Glucose, Bromides (Drip).	8-25-21	34 da.	Died	Delivered, 10-2-21.
W. Mrs. Car.....	2 mo.	3 mo.	101.5-97	Glucose, Sod. Bicarb., Calomel (Drip).	9-26-21	14 da.	Died	Exophthalmic Goitre; vomiting Prev.
W. Mrs. R.....	2 mo.	4 mo.	102.5-97	Glucose, Cor. Luteum (Hypo), Sod. Bicarb. by infusion.	11-5-21	29 da.	Died	Delivered, 12-3-21.
W. Mrs. S.....	?	3½ mo.	103-98	Glucose, Bicarb. (Drip), Sod. Bicarb. (Flush).	2-3-22	17 da.	Died	Inserted Catheters; died before delivery.
W. Mrs. G.....	?	2½ mo.	98	Corp. Luteum (Hypo), Sod. Bicarb., Glucose (Drip), Sod. Bicarb. (Drip).	1-10-22	40 da.	Improved	Deserted, 2-20-22.

It is interesting to note that two of the patients who died had Pulmonary Tuberculosis, one of these complicating Syphilis; another case had an Exophthalmic Goitre; the remaining four had no complicating disease. Also note that those who died ran temperature from 101.5 to 103.9; three others who ran temperature over 101 deserted. Those who recovered ran low temperature.

Treatment. Start the treatment early. First make a careful anatomic examination starting at the head and especially considering the genital organs. Look for an erosion or a stenosis of the cervix and any abnormal position of the uterus and treat accordingly.

Corpus luteum and Ovarian Extract given by mouth intramuscularly or intravenously have not proved to be of much benefit in my hands. Adrenalin by hypo and by mouth was first advocated by Rebaudi. I think it helped one or two of my cases. Zuloaga declares such adrenal insufficiency can be diagnosed by a white line left after drawing the finger nail over the skin. This he declares can be relieved by the use of Adrenalin solution 1-1000.

Cray reports very good results from the use of Placental Extract. Blood transfusion has questionable results.

I am personally inclined to think very highly of the carbohydrate treatment outlined by Dr. Paul Titus. It has proven most satisfactory to me. When nausea starts up and continues through the day, start a Murphy drip using 8% glucose and 2½ Sod. Bicarb., always giving a saline flush first. Isolate the patient at once, preferably in a hospital. Keep the family away as much as possible as sympathy from them makes it hard to handle the patient.

In severe cases the duodenal tube has the greatest field of any form of treatment when intelligently and judiciously used. I used it in two cases which I am reporting. I found it quite difficult to insert in one of the cases. Dr. Raymond Hume offered the following suggestion, which helped me very much indeed. His suggestion was to give Morphine Sulphate gr. ¼ and Atrophine Sulphate gr. 1/150 forty-five minutes before inserting the tube, and to spray the nasal pharynx and pharynx with a 2% Cocaine Hydrochloride solution; then pull the tongue well forward and swab the base of it with a 5% Cocaine Hydrochloride

solution ten minutes before inserting the tube. I then inserted the tube into the stomach with slight difficulty. The tube was passed into the duodenum with the usual technique.

I kept the tube in for six days giving 8% Glucose, $2\frac{1}{2}$ Sodium Bicarbonate and 40 grains of Sodium Bromide through the duodenal tube in the form of a drip, alternating with a modification of Bacon's formula.

20 grams of Glucose;
125 grams of Beef Peptonoids;
3 grams of Cal. Chloride;
4 grams of Sod. Chloride;
3 grams of Sod. Bicarbonate;
Water to make 1000cc.

I continued giving the Glucose and Sodium Bicarbonate through the tube until she developed a transient glycosuria, then I reduced the Glucose and increased the other fluid until the urine was sugar free.

There are certain cases where I feel that the intravenous administration of Glucose is very beneficial. Great care should be exercised in preparing the solution, and only the very best grade of Glucose used.

If the patient still does not show any signs of improvement, in a comparatively short while, if acidosis as shown in the daily examination of urine does not improve, if vomiting of bile stained fluids and coffee ground material occurs, if yellow stain of the skin and sclera persists or grows deeper, if temperature goes above 101, if the blood pressure falls day by day and if the urine is less in amount and greater in specific gravity and with a high ammonia coefficient, the uterus should be emptied. We must not lose sight of the fact that this is a very dangerous procedure for such a bad subject.

A large per cent die before absorption is complete and many just after from shock and loss of blood. Great care should be exercised to prevent shock and the simplest methods possible used to induce abortion. Preferably give the patient nitrous oxide and oxygen as an anesthetic. Gently dilate the cervix and either pack with gauze or insert catheters. Occasionally in primiparæ where the cervix is long and hard and the patient in a serious condition, a vaginal hysterotomy should be done.

Case 1. Mrs. F., age 24. September, 1914.

Present illness: Persistent vomiting for six weeks prior to calling me. Do not know anything about the treatment during that time. Patient very much emaciated when I saw her. Unable to retain anything by mouth. I advised that she be transferred to the hospital at once, which was done.

Treatment: Rectal feeding of 5% glucose and 2½% of sodium bicarbonate, alternating with nutritive enemas, several times a day. Her condition gradually grew worse, after having been in hospital five weeks.

Physical examination: Heart and lungs negative. Well developed, poorly nourished white female. Abdomen negative. Reflexes negative. Very little discoloration of skin and sclera. No temperature, but pulse very rapid.

After consultation it was decided to induce labor. The cervix was greatly dilated, under a general anesthetic, and catheters were inserted (usual technique). These were left in for 24 hours without the desired result. We then resorted to a vaginal hysterotomy. She had a stormy recovery, but since this time has gone through three or four normal pregnancies.

Case 2. Mrs. T. S., age 29; occupation, housewife.

Complaint: Nausea and vomiting due to pregnancy. Started June 6, 1916.

Family history: Negative.

Past history: Usual diseases of childhood. Operated on twice (appendectomy and tonsilectomy).

Menstrual history: Started when 12 years old. Regular every 28 days. Flow lasted from 4 to 5 days. Pain during first day.

Married four months.

Present illness: Nausea, slight at first, but gradually grew worse. After a few days was forced to go to bed and remain in bed for 9 weeks on account of nausea and vomiting.

Physical examination: Well developed and nourished. No glandular enlargement. Reflexes normal. Heart, lungs and abdomen negative.

Blood pressure: Systolic 124, diastolic 90.

Vaginal examination: Negative except a slight retrodisplacement of the uterus, which was easily reduced. Reduction did not influence the nausea. The skin and sclera had a definite yellowish cast which gradually grew deeper in color as the nausea increased.

Treatment: Symptomatic at first. Frequent feeding night and day with food rich in carbohydrates. Small doses of calomel given every 10 or 12 days. Later, as the nausea grew worse, was forced to discontinue oral feeding and started the Murphy drip; 5% glucose and 2½% sodium bicarbonate, also peptonized milk by drip. At the end of 9 weeks the nausea stopped almost at once and she began eating a regular diet. It took from 6 to 8 weeks to regain the 40 pounds which she lost while in bed.

Two other pregnancies. First: Nausea started about 6 weeks after she missed, and continued about 3 weeks, when she miscarried without any apparent reason.

Second: Two years later. Nausea and vomiting more severe than the first. In bed 3½ months.

Treatment: Same as in the first pregnancy, with the exception of ovarian extract, which was given intravenously every day for 20 days; nausea stopped for one month and started again, but not so severe. Patient was able to retain at least two meals a day up to delivery. Just before delivery her hands and feet were very much swollen. Urine examined every week during this time, always negative, except acetone at times.

Delivered a normal child weighing 9 pounds. All symptoms rapidly disappeared. Ten days later was discharged from the hospital.

Case 3. Mrs. F., age 23; occupation, student at college. Married 1 year.

Family history: Negative for tuberculosis and cancer. Previous health: Good. Influenza and the usual diseases of childhood. Called to see me February 1, 1921, complaining of nausea and vomiting due to pregnancy. Nausea and vomiting increased in severity until February 21st she was confined to her bed and vomiting became uncontrollable. February 28th her face, neck and chest began to swell. This swelling increased until her features were distorted beyond recognition. Neck and chest were enormous. Swelling was due to an emphysema.

Examination: Well nourished, well developed white female, weighing 208 pounds. Heart, lungs and abdomen negative; no granular enlargement; reflexes normal, blood pressure; 130 systolic, 90 diastolic. Vaginal examination: External genitalia, negative; cervix, soft and not eroded; uterus, normal position about the size of eight-week pregnancy.

Laboratory reports: Urine negative, except a few casts and a trace of albumen and acetone which were found when vomiting was most severe. Total differential blood count negative. Wasserman negative. X-ray and fluoroscopic examinations of chest negative.

Treatment: During first few days of nausea and vomiting, symptomatic treatment was ordered. Gorpus luteum, intravenously; glucose and sodium bicarbonate by drip.

February 28: Vomiting was more severe and emphysema started. We gave 500 c.c. of 10% glucose solution intravenously. This was repeated every six hours for three injections. Hypodermoclysis also given; adrenalin by hypo and mouth; morphine and atropine to keep the patient quiet. After the third injection of glucose the vomiting stopped.

The patient weighed 140 pounds the first time she was able to get up after leaving the hospital. Two and a half months later she aborted without any apparent reason or warning. The foetus was dead and appeared to be a four-month pregnancy, according to the statement of Dr. Voss, who handled the case during my absence from the city.

Case 4. Mrs. W., age 36; occupation, housewife.

Complaint: Called to see me May 10, 1922, on account of nausea and vomiting due to pregnancy.

Family history: Negative.

Past history: Usual diseases of childhood; influenza and a toxic goitre from which she had apparently recovered, with the exception of a rapid pulse (90 per minute).

Menstrual history: Negative.

Physical examination: Well developed, well nourished white female. Reflexes slightly exaggerated. Head and neck negative, except slightly enlarged thyroid gland. Heart, lungs and abdomen negative. Blood pressure: systolic, 120; diastolic, 70.

Vaginal examination: External genitalia negative. Cervix normal to touch, no erosion, no stenosis. Uterus normal position about the size of a 6 week pregnancy.

Present illness: Nausea and vomiting slight at first. Able to retain about two meals a day during the first three weeks. It gradually increased in severity, in spite of treatment. At times she seemed to be better. Was forced to go to bed about May 24. At times her pulse was very rapid, especially after a vomiting spell

(120 per minute, but after a dose of sodium bromide her pulse returned to about 90 per minute, which was normal for her.

Treatment: At first symptomatic; frequent feeding; later, as the nausea increased in severity, started rectal feeding; 8% glucose, 2½ sodium bicarbonate drip once a day. At this time she was able to retain one meal a day; I also gave corpus luteum intravenously. As the nausea increased was forced to discontinue oral feeding.

June 17: Pulse went up to 120; nausea increased in severity, was unable to retain any food by mouth. I sent her to the hospital. Inserted the duodenal tube with difficulty. I gave glucose and sodium bicarbonate by drip through the tube, alternating with a modification of Bacon's formula and Hart's Elixir; this was kept up for six days. On the second day the glucose was decreased on account of an alimentary glycosuria.

Laboratory reports: Urine negative up to June 20th, when 2½ % sugar developed (at this time the glucose was reduced).

June 21: Urine showed 4% sugar.

June 24: Only a slight trace of sugar and heavy trace of albumen.

June 29: Total white blood count 9,000.

Differential: Polys, 91%. S. M., 2%. L. M., 7%.

Pulse during the past 10 days was rapid, but thought it was due to the goitre. The vomiting stopped, except at times when the tube moved and made her gag for a short time. In the early morning she would spit up small amounts of mucus.

June 28: Temperature ran to 101, but her general condition was good; temperature went to normal later in the day.

Afternoon of June 29th her condition grew decidedly worse. Vomited large quantities of coffee-ground material, the first time since the tube was inserted. Temperature ran up to 104, pulse 133, respiration 34.

After consultation with Drs. Cocram and Guthrie we decided to induce labor. Under nitrous oxide anesthesia the uterus was partially emptied and packed with gauze, with as little shock as possible. Her condition was very bad when she left the operating room and she died a short time after she returned to her room.

There is a question as to what caused the sudden change; she was fairly well nourished (as we were able to give her a great deal of fluids through the duodenal tube).

Dr. Guthrie thinks it was due to an acidosis with an acute dilatation of the stomach.

Case 5. Mrs. C., age 26; weight, 96 lbs.; occupation, college work.

Complaint: Nausea and vomiting due to pregnancy started April 25, about the same time she missed her menstrual period.

Family history: Negative.

Past history: Had typhoid fever and influenza.

Menstrual history: Started at 14 years; regular once a month, lasting from three to five days; good flow; slight pain during first day of flow. Married 8 years.

Five miscarriages.

First miscarriage: Two months gestation; vomited all the time; sent to the hospital and kept isolated; condition grew worse and labor was induced.

Second miscarriage: Six months after the first; one month gestation; miscarried; cause unknown.

Third miscarriage: Eight months later; 5 months gestation; miscarried; cause unknown.

Fourth miscarriage: A few months later; miscarried; cause unknown.

Fifth miscarriage: Two years ago; one month gestation; miscarried; cause unknown.

Present illness: Nausea and vomiting, which started April 25th and gradually increased in severity.

May 28th: She began to vomit blood. This continued day and night; she could not retain anything by mouth, and very little by proctodysis. General condition became critical. Pulse rapid, tongue dry and coated.

Physical examination: Poorly developed, poorly nourished; no glanular enlargements. Heart, lungs and reflexes negative. Blood pressure: systolic, 90; diastolic, 65.

Vaginal examination: Negative. Urinalysis: Several examinations were negative, except for indican and low specific gravity. Wasserman negative. Blood count, total and differential, normal. Hemoglobin, 80%.

Treatment: At first symptomatic; ordered frequent feeding of food rich in carbohydrates. Ovarian extract, intravenously, for twenty doses. Adrenalin, 5 minims by hypo. once a day; 20 minims, three a day by mouth. Did not notice any appreciable change in the blood pressure. Murphy drip, 8% glucose, 2½ sodium bicarbonate.

May 29, 1922: Inserted duodenal tube with great difficulty; kept it in for 6 days, giving a continuous drip of 8% glucose and 2½% sod. bicarb., alternating with a modification of Bacon's formula; also 40 grains of sodium bromide once or twice a day through drip, depending on her nervous condition.

June 25: Vomiting stopped and oral feeding was started; diet rich in carbohydrates.

She is troubled with slight nausea at times, but retains at least three meals a day. She has gradually regained her strength and feels better than she did before becoming pregnant. As soon as the nausea stopped, I started giving iodides by mouth and mercury rubs as a therapeutic test for lues, on account of the number of abortions. I saw her last week. Her general condition was good. Blood pressure: 95 systolic, 70 diastolic. Urine negative.

CONCLUSIONS.

1. True toxic vomiting of pregnancy is caused by definite pathological changes in the liver, kidneys, and at times in other vital organs. This is not true in the reflex and neurotic types.

2. Many cases of vomiting of pregnancy die of some other complicating disease. Some are toxemic cases; others are severe reflex or neurotic types.

3. It is essential to make a careful examination prior to starting any treatment.

4. Start treatment early in all cases of vomiting of pregnancy. As soon as the patient is unable to retain a sufficient quantity by mouth to nourish her, and keep down an acidosis, start a Murphy drip using 8% Glucose and 2½% Sod. Bicarb., also Bacon's formula.

5. All cases of vomiting of pregnancy should be put on a diet rich in carbohydrates.

6. In severe cases the duodenal tube has proved of great value; also intravenous injections of Glucose should not be overlooked.

7. Ovarian extract and Corpus Luteum have not helped any of my cases up to the present.

8. After due trial of accepted treatment, if the patient continues to lose ground, labor should be induced with as little shock as possible.

I want to thank Dr. J. K. Arent for tabulating the Charity Hospital record for me.

DISCUSSION.

Prof. W. Denis: I should like to say a few words in regard to the various chemical tests which have been suggested as being of prognostic or diagnostic value in the type of case just discussed by Dr. Sellers. The oldest and best known of these is the so-called "ammonia coefficient" test, suggested about 15 years ago by Williams. This "ammonia coefficient" is, of course, simply a term introduced to designate the per cent of total nitrogen in the urine present as ammonia nitrogen. At the time Williams elaborated his test it was believed by many that this ammonia coefficient was, in the normal individual a more or less fixed quantity. We now know that variations in diet and starvation produce marked changes in the ratio. The "ammonia coefficient" of a normal individual on an ordinary mixed diet is about 5, but it is extremely easy to push this ratio up to 10 or 15 by such ordinary procedures as starvation, low protein diet, etc. Some twelve years ago some enthusiasts in the use of this test believed that an ammonia coefficient of 12 justified abortion; of late years, however, it has been recognized that such confidence is misplaced, so that, for diagnostic or prognostic purposes, only values of 25 or over are now seriously considered. Personally, I (in company with most chemical workers in this field) think that the ammonia coefficient idea has been much stretched, although it must be admitted that the clinicians have not always been in agreement with us in this matter; and for some years I have regarded it with suspicion, not only on account of the ease with which it is possible in some subjects to produce high ammonia coefficient by simple starvation, but because of the ease with which the urea of urine splits off ammonia when the fluid is allowed to stand in a warm place without the addition of preservatives. I have repeatedly found that nurses will collect 24 hour urines and then place them close to a radiator, with the result that a very high content of ammonia is found when this urine is analyzed. Murlin, ten years ago, working under excellent experimental conditions proved that it is possible to have severe cases of true toxemia without any increase in the ammonia coefficient; others, however, have come to the opposite conclusion.

Within the past 10 years another type of chemical test has come into prominence—i. e., the so-called chemical blood test. One of the most useful of these is the determination of the carbon dioxide, combining power of the plasma, the "alkali reserve" test of Van Slyke. This test is, as you probably know, designed to measure the degree of acidosis, if any, existing in the patient, and in these toxemia cases an extreme grade of acidosis is sometimes encountered. The use of this test, not only for diagnosis purposes but as a guide in the employment of alkali therapy, is apparent.

The other determinations which have been found of value are non-protein nitrogen, urea and uric acid. When these tests were originally suggested Sleemons of Baltimore reported adversely as to their use to the obstetrician. Since then more extended work by Williams in Chicago and Killian and Sherwin and Caldwell and Lyle in New York make it appear that these tests will ultimately prove of considerable value.

The uric acid determinations in particular give promise of great usefulness as a means of distinguishing between the hysterical and the true toxemic type in the vomiting of pregnancy. In the hysterical cases the blood uric acid remains at the level found in normal persons—viz., $2\frac{1}{2}$ to 3 milligrams per 100 c.c. of blood, while in the toxemic cases greatly increased uric acid values (10-12 milligrams) are found. In some cases of toxic vomiting the non-protein nitrogen is also increased above normal, but this increase is not so constant or so early as is the increase in the uric acid fraction, and therefore the non-protein nitrogen determination while of value is not so important as is the uric acid test.

It has been repeatedly shown that 50 per cent of the non-protein nitrogen fraction of normal blood consists of urea. In normal pregnant women this ratio sinks to about 40 per cent, and in severe cases of toxemia ratios as low as 20 per cent have been observed. So striking is this relation that it has recently been suggested that this abnormal ratio between non-protein nitrogen and blood urea may prove of value in the diagnosis of toxemias particularly of the hepatic type.

We frequently see in these toxemia cases extreme cases of acidosis. We consider normal figure from 55 to 60. We frequently see as low as 30, or even 16. We do not get such extreme values of acidosis in hysterical cases. It has always appeared to me that this test is very good for alkaline therapy.

The other types of tests are non-protein nitrogen, urea and uric acid. When these tests were first suggested, Hooper reported rather adversely. Since then there has been much more careful work, in New York, by Williams, etc., and I think that the fact is definitely proved that these tests are of considerable value in some cases.

This is particularly true of uric acid. It has been shown by at least four different individuals that this is a favorable test. In the hysterical type of pregnancy—remains from $2\frac{1}{2}$ to 3 mmgrms. per c.c., whereas in toxemia, 10 to 12 mmgrms.

The urea rises to 10 or 15 mmgrms.

The non-protein nitrogen and urea tests are of service to a few, but not quite so practical. The normal non-protein nitrogen of the human body is 13 mmgrms. In these toxemias we never get the huge 300 mml. as in late cases of nephritis. We do get from 50 to 60.

Invariably in these tests we have rather unusual conditions in these toxemias of pregnancy—namely, there is unusual different ratio between urea. In normal blood about 50% exists as urea. Even in a normal pregnant woman, it is rather low, from 40 to 30. In very severe cases of toxemia, falls as low as 20% have been observed. Tilden, etc., have advanced tests whereby we may differentiate between nephritic and **toxemic (?) hepatic (?)** type.

It is impossible to differentiate between the hepatic and renal type. Both are high.

Dr. P. Michinard: My reason for coming up this evening is because in my ward there was a case that had been considered one of obstinate vomiting of pregnancy. Several days ago, at the termination of my vacation, I saw in the ward a woman who is emaciated, pulse 130, temperature 100. There is an eight weeks gestation. This woman had not retained any food, and only a small quantity

of water for five weeks. During the week prior to my seeing her various experiments had been tried, such as gastric lavage, rectal feeding and administration of different drugs until abortion was considered. When I heard of all this aggressive treatment I decided to try psycho-therapy. I then had her brought to the examining room, and there, after an ostentatious examination, disclosed to my several assistants, "This woman is not pregnant." She insisted that she was. I then told her that her menses had ceased for two months because she had a severe inflammation of the womb, and that I would cure her with a powerful application. The interne was directed to apply to the womb through a speculum "some of that 'black' medicine." When she saw the bottle she exclaimed "That is idone!" We assured her it was not, but a new drug from Europe. The application was made. There was no more vomiting. She left the hospital early today after having taken and retained three meals a day. In a few weeks she will realize that she is pregnant.

It is strange many men of large obstetric practice have seen very few cases of serious or almost uncontrollable hyperemesis gravidarum. I have never yet seen one. One case might be expected; but that at autopsy proved to be a cerebral gumma. This woman died at the fifth month of pregnancy. An abortion had been done one month before death; the vomiting continued until death. In treating such condition one should study the patient as much as the case. I believe that most if not all cases of hyperemesis occurring prior to the fifth month are of nervous origin. All after this period are pathological—either from the liver, kidneys and intestines. Dr. Eustis has truly said that much indician in the urine is very suggestive. When we consider laboratory findings such as urine changes, blood changes, etc., we must remember that these changes have been found after prolonged emesis—changes that may be found in any case of starvation and suffering. They are rather effects than causes. I do not believe that any case prior to the fifth month properly treated by psycho-therapy will ever become pathological. I could cite many causes by mental shock. Some tragic, some very amusing. One, where I was called to consider abortion, that news of the sudden death of a relation stopped the vomiting. Another, under similar condition, was caused by the sudden appearance of her husband, flourishing in his hand a mass of money, crying out for his wife, "See, Mary, I have just won \$750.00 in the lottery!" No pathological condition would or could be cured so quickly by brain shock. I have used many drugs, but always with the assurance that they were powerful. I have used corpus luteum extract by needle. But often I have had good results from hypodermics of sterile water, at the time telling the patient that I was using a solution from the "egg making organ of the pregnant sow." That impressed her. The replacing of a retroverted uterus is beneficial through its mental impression, woman having been made to believe the displacement was the cause of the vomiting. Keep all sympathizing friends away. Where the vomiting is due to pathology, find the right one; treat that more vigorously than the emesis. Relieve the one; the other will abate.

I have not yet seen a case of hyperemesis that was not amenable to treatment without abortion.

Dr. Allan Eustis: I believe that if we are to accomplish anything in the treatment of pernicious vomiting in pregnancy, it must be before the perniciousness develops.

Prof. Denis pointed out that there are certain pathological conditions of the liver in these cases—and how many of us bear that in mind in handling pregnant women?

Dr. Phillips mentions diet and purgation.

Any general practitioner can watch these cases by testing the urine, and while chemical examination of the blood is helpful, it is not necessary. If you will pardon my bringing up the indican subject again, I would like to lay stress upon its importance in these cases.

Whipple in San Francisco and Opie working synchronously in St. Louis, conducted a series of experiments upon white rats which throws some light on the pathology of the toxemia of pregnancy. They produced liver necrosis in white rats by the administration of chloroform. One set of animals was fed upon meat, another upon fat in the form of suet, and a third set upon carbohydrates in the form of cereal and sugar. Both observers obtained the same results: death of all animals fed upon meat, with distinct histological changes in the liver, but none of the animals fed upon carbohydrates died, and several animals killed after two weeks showed no changes in the liver. The bearing upon the toxemia of pregnancy is stressed by both these workers, and they should force us to consider the liver in all pregnant women.

In a paper before the Louisiana State Medical Society several years ago, I laid stress upon the influence of intestinal toxemia upon the liver, and attempted to make it clear that a low protein and a high carbohydrate diet is indicated in all diseased conditions of the liver.

In earlier years, when in general practice, I have carried women who had previously been vomiting through full terms without any vomiting, and with very little nausea, simply by treating the intestinal toxemia. Therefore, I again wish to emphasize the importance of a consideration of the liver in all parturient women.

Dr. W. D. Phillips: I was very much interested in the remarks that Prof. Denis made, because I believe that it is the solution we will eventually find in this condition.

The point is: Just what causes this vomiting of pregnancy? I believe close co-operative work with the chemical laboratory will help us arrive at a conclusion.

The question of acidosis. Just what is acidosis and what causes it? Why is it that one patient will go through entire pregnancy without any marked symptoms of nausea and others will have it?

Pernicious vomiting of pregnancy is, in my opinion, nausea and vomiting of pregnancy which has been allowed to go on. If treated early it would not assume that pernicious type. Acidosis is brought on by starvation.

The theory of administering lutein extract was brought out by the fact that in the normal non-pregnant state the yellow body of the ovary gives off a certain secretion, and that during pregnancy, because of the absence of the yellow body, this secretion is modified, and it was the intention to furnish normal secretion by administering an extract made from the yellow body.

One mistake that we usually make is that we do not give enough lutein. Parke-Davis or Hyson Wescott advise 1 c.c. every day for fifteen days. Most of us give 1 c.c. for four or five days and then stop. The condition usually improves, but the trouble is that we have not carried on the treatment long enough. If necessary we can give 1 c.c. two or three times a day.

Close attention should be given to the intestinal tract by means of moderate purgation and diminishing the amount of proteids taken.

I do not recall, in my work, a single one of my cases that I had to produce an abortion on, and I have had some very protracted

cases of nausea and vomiting of pregnancy. My treatment has usually been directed toward the cause, and continued daily administration of 1 c.c. of lutein extract.

In the service of the Charity Hospital I can readily see that the more severe cases are the only usually admitted, as a case is rarely seen in the hospital until it has assumed a more or less pernicious type.

I intend to continue to use lutein extract until some better plan of treatment is suggested, because, as stated above, my results have been satisfactory.

In the neurotic type, bromides will help.

After the fourth month of pregnancy, the vomiting usually stops of its own accord.

Thomas B. Sellers (closing): I want to thank Dr. Denis for her able discussion of the blood chemistry in pernicious vomiting of pregnancy.

My experience does not tally with Dr. Phillips. I have given ovarian extract and corpus luteum by mouth, intramuscular and intravenously to practically all of my cases of vomiting of pregnancy for the past five years with very poor results. We must not forget that most of the neurotic types are relieved in about twenty days, whether we give corpus luteum or not, while the toxic cases that I have handled have not been influenced by the use of corpus luteum.

I cannot agree with Doctors Eustis and Michnard that all cases of vomiting of pregnancy are neurotic in origin. I am convinced that there are two distinct types and they start either as a neurotic or toxic case. The clinical picture, as well as, the pathological findings at autopsy, is quite definite in the two types of cases.

I agree with Dr. Eustis that treatment should be started early in all cases with a diet rich in carbohydrates. Four of the cases that I reported, I started treatment at once, giving glucose and sodium bicarbonate by drip, but it did not stop the vomiting.

I wish to express my appreciation for the liberal discussion of my paper.

LEUKEMIA, WITH OBSERVATIONS IN THE TREATMENT AND FINDINGS.*

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Leukemia has been an interesting and baffling study to the profession since it was first described by Hughes Bennett of Edinburgh in 1845. Only a month or so after this observer reported his findings Virchow of Vienna, working independently of the former, described a similar condition and spoke of the peculiar white color of the blood at necropsy. The former described the disease as characterized by a large spleen and the blood containing cells identical with those recovered from wounds—Pus Cells. He called the disease a Leucoeythemia. Virchow said the white bodies were not to be differentiated from the colorless corpuscles of the blood and called it Leukemia. He

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differentiated types in which the lymph glands were affected and the spleen was not, thus distinguishing the Lymphatic and Splenic forms. He described the disease as a rare one, and even today it is not very common. It was Neumann who noted the changes in the bone marrow, and proposed the term Myelogenous.

In its occurrence Leukemia is confined to no country or geographic location. Its distribution is exceedingly widespread appearing not only in man but extensively in the lower animals. In fowl the disease appears in spontaneous form and may be transmitted experimentally. It is common in the dog and to a less degree in swine. While there is no predelection for race nor age, the incidence is far greater in the male than the female (7-3), and the various forms seem to have an age selection. The more acute forms attack before the twenty-fifth year with greatest incidence in the age periods one to five and fifteen to twenty. The myelogenous form occurs in the greatest percentage of cases between twenty-five and forty-five years while the Lymphatic form prevails between forty-five and sixty years. The disease rarely is met with after the sixtieth year although a case has been reported in an individual after arrival at the seventy-fifth year. There is no tendency to epidemics and the course is toward chronicity.

Leukemia is a hyperplasia of the leucocytic producing tissues, or as expressed by Ordway and Gorham: "Leukemia is a disease of the blood forming tissues which produce leucocytes, manifesting itself by a marked hyperplasia of these tissues, characterized clinically by a remarkable increase in the number of white cells in the blood, and by varying grades of splenic and glandular enlargement. The leukemic white blood corpuscles vary from the normal leucocyte in many instances and are pathologic unripe cells gaining entrance into the blood before maturity." Then depending upon whether the Myeloid or Lymphoid tissue has become stimulated to a state of hyperplasia either the Myelocyte or Lymphocyte becomes the predominating cell in the blood. It is upon this that a differentiation into Myelogenous and Lymphatic Leukemia has been made.

The total number of white cells in the blood will normally become increased as a response to the stimulation of infection. This increase in total leucocytes is known as leucocytosis and cases showing abnormal response of the Bone Marrow to infec-

tion producing an unusual increase in the total white blood cells must be differentiated from Leukemia. These abnormal responses will sometimes show an exceedingly high total leucocyte count approaching one hundred thousand. I recall a case of puerpal infection complicated by a broncho-pneumonia presenting a total leucocyte count of sixty-five thousand. At one time the arbitrary figure of fifty thousand leucocytes was taken as the dividing line between leucocytosis and leukemia. Today the differentiation is made upon the type of cell present. It was Ehrlich who accomplished this differentiation by the staining qualities of the cells (granular and non-granular). He also classified the types of leukemia according to the character of cell rather than the clinical findings as to the organ affected, thus enabling us to more accurately distinguish the two forms of the disease: (1) Myelogenous, with hyperplasia of the white cells of the bone marrow (granulocyte), and (2) Lymphatic, with increase of the lymphocytes series (non-granular cell). He considered the hyperplasia as metastatic from the bone marrow or lymph glands and it is upon this that the dualistic theory of the origin of the blood cells has developed. The mass of authority seems to favor this theory, thus leading to the opinion that the distinction made by Ehrlich is the rational one to follow.

Both the Myelogenous and Lymphatic forms have a tendency to run a chronic course of varying duration—two to five years. Grawitz has reported a case of ten years duration. Either type may occur in the acute form and is rapidly fatal terminating within two weeks to two months. All forms of the disease are viewed with the prognosis of sure and certain death.

The causative agent of Leukemia has not as yet been determined, but a great amount of work has been done toward this end. Since many diseases formerly of unknown origin have within the recent past proven to be caused by organisms of varying characters, the theory of bacterial origin has been advanced in the study of this subject. Itsuyoshi and Shin Ohashi have reported the finding of a microbody in a case of leukemia, but nothing of a convincing nature has come of their work. It has been considered as a progressive, malignant, and fatal disease, and some have suggested the possibility of a "Sarcoma of the Blood." However, no matter what may be the cause, we do know the power of the human mechanism which governs the regu-

lation of the production of leucocytes is stimulated to hyperactivity or the control is lost, as evidenced by the presence of an unusually large number of leucocytes in the circulation. This marked increase seems to be at the expense of the Red Blood Cells which are correspondingly diminished in number, thereby producing a striking anemia.

If the disease were of bacterial origin it would seem that there would be found in the literature the report of its transmission from one to another. The writer was unable to find mention of such, nor was there found reported the presence of the affection in more than one person in a family. The nearest to this was the report of two members of the same family suffering from Lymphatic Disease: One from Lymphatic Leukemia and the other from Lympho-sarcoma. There has been no transmission of the disease in the human, and many writers have reported that leukemia mothers have given birth to normal children. The experimental transmission of leukemia in fowls seems to be an established fact, and Schmeisser is reported to have transmitted the affection to twenty-five animals all of which died excepting one in which there was a spontaneous cure. This transmission was by intravenous and intraperitoneal injection of organ extract, but similar experiments with human material have failed. Slye found that leukemia in mice occurs only in those strains having tumors, and the disease behaves like true tumors in heredity studies.

The onset of leukemia is gradual and is usually discovered late in its course, each type presenting a rather typical and constant clinical picture. In the Myelogenous (Spleno-Myelogenous) variety the onset is very gradual, the patient often seeking advice of the physician for a feeling of lassitude, a progressively enlarging abdomen, dyspnea, or perhaps to ask about the presence of a mass in his upper abdomen which he has accidentally discovered. The most constant complaint causing the patient to apply for medical aid as determined by a review of the cases treated in the Charity Hospital at New Orleans was a feeling of fullness or heaviness in the upper left abdomen and frequently associated with knowledge of a mass in that region. Pain in the splenic region is a more constant factor than we have been led to believe. Others turn toward the doctor because of pallor, weakness, loss of weight, gastro-intestinal disturbances, dizzi-

ness, shortness of breath, or hemorrhage from either the nose or bowel. The latter, while not a constant symptom, is not an infrequent one. The symptoms tend to increase in severity and the individual's condition progresses downward. As the anemia increases there is a loss of appetite, dyspnea, cough, palpitation, tachycardia, rapid emaciation and death from myocardial degeneration. There may be periods of pyrexia alternating with apyrexia. It is not uncommon to have periods of remission during which the patient tends to improvement.

Examination reveals an anemic, pallid, emaciated individual with drawn, tired expression, abdomen prominent and enlarged, especially in the upper left portion. There may or may not be an enlargement of the superficial glandular system as this finding usually occurs late and the glands are not painful or inflamed, are freely movable and remain separate. The mucous membranes are pale, the gums are soft and may bleed, and the tonsils show enlargement. A retinitis may be present but the vision is not impaired. Sometimes a bronchitis with basal edema is present. Cardiac findings, as usually accompany secondary anemia, are present especially tachycardia, Systolic murmurs, dilatation, and associated findings in other organs which characterize myocardial weakness. The blood pressure is normal or below, with a tendency to the latter ranging between 90-130 Systolic and 70-90 Diastolic. The abdomen is enlarged with a fullness or prominence in the left upper quadrant with pain or tenderness in this region. The spleen is many times larger than normal, extending downward and forward, but maintaining its general shape, so that usually one or two notches may be detected in its right border. Its surface is smooth, even and firm to touch and may exist as a massive tumor extending into the pelvis and occupying more than three-fourths of the abdominal cavity. The liver is uniformly enlarged to varying degrees and ascites is not an uncommon finding. The ascitic fluid may contain myelocytes, mast cells and eosinophiles. There is no palpable increase in the size of the kidney though histological examination shows leukemic infiltrations, and the presence of albumen and casts in the urine is a frequent accompaniment. The total urinary output is not increased but there is often frequency possibly due to the increase uric acid content. The specific gravity of the

morning urine in cases treated in Charity Hospital ranged from 1005 to 1025.

The blood is readily coagulable and when allowed to stand after withdrawal separates itself into three distinct layers—a lower dark red, middle creamy white, and upper clear amber. The true diagnosis is made upon microscopic examination which reveals an enormously high total white count, many times ranging in the neighborhood of one million per cu. mm., with the presence of many pathologic unripe cells. The per cent of Neutrophiles and Lymphocytes is decreased while the per cent of Eosinophiles and Basophiles is increased and there is a large per cent of Myelocytes. The diagnosis lies not in the increase in total leucocytes but in the character of the immature cells (Myelocyte or granulocyte) in the circulation.

The red blood cells show a marked diminution in number often reaching the low mark of one million per cu. mm. and the hemoglobin per cent which is not altered in the early stages decreases as the disease progresses, frequently reading as low as fifty per cent. As the disease advances both total red cells and hemoglobin per cent diminish proportionately until there is a profound secondary anemia. The individual cells show an irregularity in their size, shape and staining qualities and the presence of nucleated red cells, polychromatophilia, and stippling are constant findings. In the advanced cases a picture very similar to pernicious anemia with myelocytes is encountered. The total cell counts is not an index to the severity of the disease, but as these are altered so are the clinical symptoms altered.

The bone marrow shows a marked change with the normal yellow fat marrow replaced by a firm homogenous pale yellow, gray or pink gray or greenish colored tissue. The microscopic examination shows masses of myelocytes and all kinds of leucocytes but very few red cells, showing that the erythroblastic tissue is replaced by a hyperplasia of the myeloid cells.

Lymphatic Leukemia is very gradual in its onset and it is impossible to state with any degree of accuracy the time of its beginning. However, the individual usually seeks the physician because he feels that he is growing weak, tires easily or has by accident discovered painless or enlarged glands. It is not infrequent that the physician when least expecting finds during the course of an examination an anemia with enlargement of the

lymphatic glands and spleen. In cases associated with severe anemia the accompanying characteristic symptoms of this condition may be found.

The physical examination generally reveals only a paleness with slight emaciation if any, general glandular enlargement of varying degrees, and an enlargement of the spleen and liver, to a much less degree than in the myelogenous form. The gums may be swollen and bleeding sometimes occurs. The tonsils are large and removal may be performed, which procedure may be followed by severe or even fatal hemorrhage. The most valuable and constant clinical finding is the presence of the general glandular enlargement especially of the cervical, axillary, and inguinal chains of lymphatics. The glands are not inflamed, are firm, not attached to the overlying integument, appear in chains remaining separate and freely movable. The degree of enlargement is quite variable ranging from the size of a pea to that of an ordinary walnut, and is rarely absent though some cases have been reported. The area of cardiac dullness is increased and tachycardia and palpitation are present if the disease has reached a fairly advanced state. Depending upon the accompanying anemia the myocardium becomes insufficient with the appearance of systolic murmurs chiefly over the base and associated swellings of the feet and ankles. The abdomen is not constantly enlarged though both liver and spleen present some increase in size and ascites may occur. The kidneys are not palpable but albumin, casts and red blood cells with increase of uric acid are common urinary findings.

The blood examination shows a great increase in the total white count but on the whole is much lower than in the myelogenous type, rarely reaching in excess of two hundred and fifty thousand. The differential count shows a very large percent of lymphocytes (90-95%) which appear to be identical with the normal lymphocyte but close scrutiny reveals many to possess a very thin shadow of blue protoplasm surrounding the nucleus and others are devoid of protoplasm only the naked nucleus remaining. The nuclei of these cells take a lighter stain than the normal. All other white cells are both relatively and absolutely decreased.

The total red cells are decreased in number according to the stage of the disease and as the leukemic process advances, the

diminution in the red cells continues and the Hemoglobin percent parallels this diminution. The microscopic appearance of the red cells exhibits the picture of secondary anemia with irregularities in size, shape, staining qualities, and the presence of nucleated cells.

The bone marrow in Chronic Lymphatic Leukemia is quite different from the normal yellow fat marrow which has been replaced by dense cellular tissue of a gray or gray red color, generally homogenous with occasional nodular areas. The microscopic appearance shows a substitution of lymphoid cells for the myeloblastic and erythroblastic tissue.

The treatment of both the Chronic Myelogenous and Chronic Lymphatic Leukemia will be considered under the same heading since treatment directed against one is the same as has been found to be beneficial in the other. This phase of the disease has been both interesting and baffling to the profession since the first description of the process nearly a century ago. Many remedies and procedures have been tried in the management of leukemia and those for which best results have been claimed are: Benzol, Splenectomy, Roentgen Ray, and Radium exposure. These will be considered in the order given.

The peculiar action of Benzol in reducing the total number of leucocytes in the circulation was first noted by Santesson of Stockholm in 1897. He observed poisoning from this agent in persons working in a bicycle factory where benzol was used as a solvent, and noted a reduction in the total number of both the red and white cells in the circulation. There seemed to be a complete absence of regeneration forms with a diminution of the granular types and the leukopenia was striking. One of his cases showed a red cell count of three million seven hundred thousand with no white cells. In a fatal case in man there was found fatty degeneration of the kidney, liver and other organs, with hemorrhages into the serous membranes. In this country Selling in 1909 observed the production of Purpura Hemorrhagica from benzol poisoning in three girls working in a factory in the presence of benzol fumes. At autopsy MacCallum found fatty degeneration of the liver and myocardium, hyaline degeneration and necrosis of the Malpighian bodies of the spleen, and a distinctly aplastic bone marrow. It was not until three years later that the action of this drug on the hemopoietic mech-

anism of the body suggested its use in the treatment of leukemia. Koranyi in 1912, during his observation of poisoning from the drug, thought of its possible use in the disease and he was the first to give it a therapeutic test. He noted a beneficial effect with marked improvement of clinical symptoms, diminution in the total leucocyte count, but little recession in splenic tumor. However he found that the effect was more readily obtained with a combination of X-ray and Benzol. One case reported by him showed a reduction of the leucocytes from two hundred twenty thousand to eight thousand within three months. In 1913 he noted that large doses of the drug would give bad effect upon the red cells as well. Billings in 1913 was the first observer in America to use the drug in the treatment of similar conditions and Moynihan credits him with the opinion that benzol caused a more rapid death. Graham's case, which was under treatment for eight weeks, had a sudden fatal determination. Pappenheim has demonstrated that 4cc. of benzol will cause death in a rabbit weighing twelve hundred grams. Lafleur's case, treated by both benzol and X-ray, had within twelve months a rise in the red blood cells from three million seven hundred thousand to five million eighty thousand and the hemoglobin reached one hundred per cent. The white cells decreased from seventy-three thousand to fifteen thousand. Similar results have been recorded by other observers so there is no doubt benzol will produce a temporary improvement in the clinical picture of both Chronic Myelogenous and Chronic Lymphatic Leukemia.

The effect of benzol is first noted after one to two weeks administration and should be watched closely discontinuing when the count reaches twenty thousand. Ordway has reported a case resistant to both benzol and X-ray which was affected by radium. He also calls attention to the possibility of serious toxic symptoms with fatal results after its administration. Many persons are unable to take benzol for a long period of time due to burning sensations produced in the stomach, eructations of gas, tracheitis, bronchitis, and giddiness which frequently accompany its administration. These symptoms may be obviated or diminished by administering the drug with equal parts of Olive Oil in a capsule.

Splenectomy in leukemia was first performed by Bryant in 1866 and a second time in 1867, with death of both patients. A number of cases have been reported by various authors with temporary improvement of short duration. If the spleen is removed while it is in the enlarged state the mortality is tremendous. This point was shown by Giffin who reported the total splenectomies in this affection up to 1918 was fifty-one with forty-three deaths and four dying shortly after (93%). He also reports fourteen splenectomies in patients who previously had spleen reduced by radium with no operative mortality.

Roentgen Ray therapy in the management of leukemia was first carried out by Senn in 1903. Since that time many observers have reported favorable results from its use in the disease with remissions in the clinical signs and symptoms and great improvement in the cellular elements of the circulation. Occasionally the patient after exposure to the ray will experience a reaction characterized by dizziness, nausea, and slight temperature. Again there have been reported cases who are resistant to the ray and receive no beneficial results. The action of this therapy is temporary in its effect producing decided remissions in the disease only to have the patient relapse into his former state. Beclere, since 1904, has treated ninety-three cases of Chronic Myelogenous Leukemia and twelve cases of Chronic Leukemia by this means with complete remissions of varying lengths and patients living from three to six years. These cases presented one, two, or three remissions with finally no further beneficial action from the X-ray. Use is made of the hard penetrating rays by filtering out the softer rays which by long exposure would injure the skin and superficial tissues. The general improvement is moderately rapid and there is a reduction in size of the spleen and disappearance of all clinical symptoms. The blood picture approaches the normal as regards the total cells, the appearance and character of cells present. The exact method of action of the Roentgen Ray has not yet been determined, however, it has been advanced that there is direct leucolytic action while others have suggested an action primarily on the blood plasma and secondary on the cells. The interesting work of Capps and Smith showed that when the serum of leukemic patients under X-ray treatment was injected into other leukemic patients there was a decided drop in the leucocyte count. On the other hand

when serum was taken from patients before radiation and injected into other leukemic patients there was the opposite effect. Equally as good results have been reported in cases in which the radiation was only over the spleen area as in cases where exposures were made over both spleen and long bones.

Renon, Degrais and associates made applications of radium over the spleen in cases of leukemia as early as 1910 and in 1913 reported five cases treated with beneficial results. One case had previously been splenectomized (spleen weighing 2800 gm.) with a reduction in the total leucocytes to twenty-seven thousand, but there was shortly a rise to one hundred and forty-three thousand. The use of benzol failed to benefit the condition. Radium was applied over the splenic area with a prompt reduction in the leucocyte count to 21,500. Applications were next made over the thighs with a rise in leucocytes to 81,600. Radium had been applied over the thighs in one other case with no results. These authors refer to twelve other cases treated with radium by French observers with similar favorable remissions. Ordway, in 1916, presented a case resistant to both benzol and X-ray, which showed marked improvement and remission after applications of radium. This case died fifteen months after recognition of the disease. In 1917 Giffin reported a series of thirty cases treated by applications of radium over the enlarged spleen with decidedly marked remissions. In fourteen of these persons splenectomy was performed after splenic reduction without operative mortality. Ordway reports a case of leukemia in which the red cells and hemoglobin per cent dropped while the total leucocyte count increased under the influence of benzol and X-ray. This case responded to three applications of radium with a white cell count falling from 495,000 to 5,800, and a red cell count increasing from 2,790,000 to 3,777,000, and hemoglobin rising from 50 to 90%.

Knudson and Erdos, in a study of the urine of leukemic patients undergoing radium treatment, have observed that the excretion of total nitrogen, urea nitrogen, ammonia nitrogen and phosphates is increased. The latter is enormously increased while the uric acid output is only slightly increased in proportion.

There is very little data at hand regarding the chemical changes in the blood of leukemic persons undergoing radium and

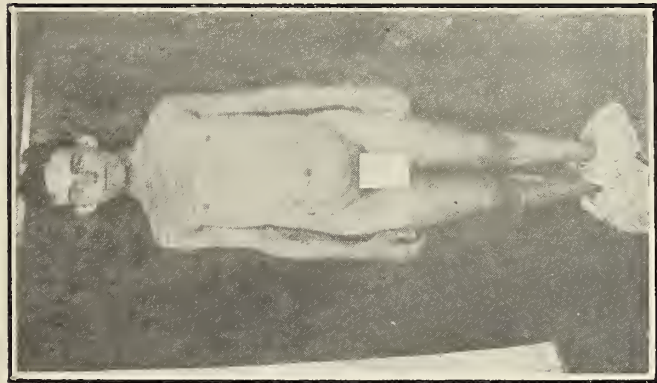


Plate I. Myelogenous leukemia, showing splenic outline before treatment by radium applications over central splenic area. (9-9-21.) Front view. (Irwin.)

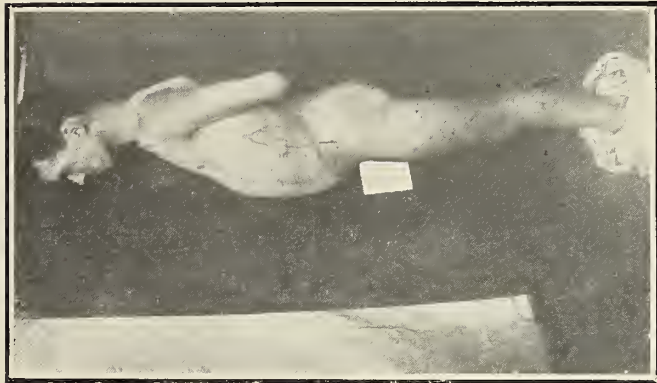


Plate II. Myelogenous leukemia, showing splenic outline before treatment by radium applications over central splenic area. (9-9-21.) Lateral view. (Irwin.)



Plate III. Myelogenous leukemia after treatment by applications of radium over central splenic area, showing reduction in splenic size with improvement of general condition. 2-6-22. (Smaller outline represents splenic border this date.) (Irwin.)



Plate IV. Myelogenous leukemia after treatment by applications of radium over central splenic area. Lateral view. 2-6-22. (Small oval represents splenic outline, this date.) (Irwin.)



Plate V. Lymphatic leukemia, showing general glandular enlargement with prominence of the cervical, axillary and inguinal glands. 2-3-22. These have disappeared under treatment by X-ray. (Irwin.)

X-ray therapy. The work of Martin and Denis has shown that the non-protein nitrogen, which is very high after X-ray, shows a gradual but steady fall. The creatinine value is invariably normal, and the uric acid, which is much increased, shows no appreciable decrease in spite of the marked diminution in the total white cells. In a study of the blood changes of a leukemic, under radium therapy, the writer observed that the results were very similar to those found by Martin and Denis; there was a marked fall of non-protein nitrogen to normal. The uric acid was high but showed a slight decrease and the creatinine was within normal limits but also showed a slight decrease.

No case was found in the literature in which there was a failure of radium, when applied over the spleen in Chronic Leukemia, to produce a marked improvement in the clinical picture, with a corresponding remission in the disease, no matter what the previous treatment may have been. The remissions obtained are identical as those described in discussing the X-ray.

In both X-ray and radium treatment of Chronic Leukemia the Basal Metabolism Rate, which is high in this disease, is characterized by a decided fall reaching normal or even becoming a little below. The increase in metabolism, according to Grafe, runs parallel to the severity of the disease and he found it to range from 25 to 105 above the normal. The writer has witnessed a case in which the rate was 124 above the normal. Grafe attempts to explain the increase by the lively metabolism of the ever renewing white blood cells. He found in some cases more than ten per cent of the entire body metabolism consisted of oxygen metabolism of the total leucocytes of the leukemic blood.

While the treatment of the malady by the use of X-ray and radium is most gratifying temporarily and at least stimulating, there is much yet to be learned of the disease. From the progress already made, which enables us to prolong the lives of these individuals and give them clinical cures for varying periods, we may yet find in these measures the proper method of regulating the treatment so as to re-establish the normal picture more permanently. At this time we must consider the treatment as only palliative as all cases sooner or later relapse into the former state passing to a fatal ending.

As has been shown in the preceding paragraphs both types of Chronic Leukemia respond similarly to X-ray and radium, the

writer presents a case typifying the disease with remission after application of radium over the central portion of the enlarged spleen:

L. T., age 18 years., a white male of good family surroundings and possessing a keen intellect, was first seen on September 9th, 1921.

Family History—Presents nothing of value or interest.

Past History—Had measles, mumps, whooping cough, scarlet fever and chicken pox when a child. Had never had small pox, typhoid, or pneumonia, nor was he operated upon. As a child was subject to nose bleeding upon the least provocation, otherwise has been healthy and robust. One year ago was troubled with nose bleeding from no attributable cause. Appetite always good and has had daily bowel movements. One year ago had a slight indigestion which was very unusual. Denies all venereal diseases and had no urinary disturbance until one month ago when began to have frequency associated with burning which he states is like acid passing.

Present Illness—Began in the latter portion of May, 1921, as a feeling of fullness or puffiness in the upper portion of the abdomen. Three weeks later he consulted a physician who found nothing wrong but prescribed some soda mints. The abdomen began to enlarge and after one month he discovered a mass in the upper left abdomen which gave a firmness to this area while the corresponding area on the right side was soft. Two weeks later, upon advice of a friend, he consulted an osteopath as he thought possibly he had received an injury in athletics. He received several massages without beneficial results. At this time the osteopath told him the mass was the size of an ordinary grape fruit. He next consulted a physician who had an X-ray and blood examination. The latter revealed a total leucocyte count of 440,000 with a large per cent of myelocytes, and a red cell count of 2,000,000 with hemoglobin of 70 per cent. He was now having a feeling of tiredness and members of the family had remarked that he looked thin and pale. There was slight swelling of the feet and legs so that at times he could not put on his shoes. He came to the Charity Hospital at New Orleans on September 9th, 1921.

Physical examination—Showed a well developed white boy appearing to have lost some weight. He was pale, shallow and waxy

with a weak, tired expression as though he had been sick for some time. There was a striking enlargement of the abdomen more prominent in the left half. All reflexes were normal excepting the left abdominal which was sluggish. A general glandular enlargement was present involving the cervical, axillary, inguinal, femoral and epitrochlear glands. These were not painful and were freely movable. The head was normal as to size and shape. The mouth was in a good state of hygiene with a pale mucous membrane and some increase in the size of the tonsils which were not injected. There was a foul odor to the breath. The neck shows well marked supra clavicular spaces with prominent clavicles. Anterior and posterior glandular chains are palpable but not painful or adherent. The thorax is medium large and well developed with left lower intercostal spaces and is asymmetrical. The left lower portion is somewhat larger than the right and has a bulging or flaring character as if there was something beneath pushing the wall outward. Respiration is full, regular and increased in rate, and of the thoracic type. The lungs present no abnormalities excepting that the lower border of the left is at a slightly higher level than the right. The precordia presents a diffuse pulsation with maximal impulse in the fifth left interspace two cm. lateral to the mid clavicular line. The left cardiac border is outside normal limitations with apex border in the fifth left interspace eleven cm. from median line, or three cm. outside the nipple. The cardiac sounds are bounding with a roughening character and a systolic murmur over the apex and an accentuation of the pulmonic second. The vessel walls are easily compressed and the pulse is full and regular but rapid.

The abdomen is enlarged and irregularly rounded with the left half larger and more bulging than the right, especially in its upper portion. The left flank is markedly full, the intercostal angle is increased and the costal borders are flaring with an exaggeration on the left side. An enormous mass filling about five-sevenths of the cavity is left with its right border presenting a notch and extending well beyond the median line and its lower border extending to the pubis. The entire left half of the abdomen is filled with this smooth, firm, slightly irregular mass extending upward under the left costal margin (see plates I and II). This mass, which possesses the general

contour of a massively enlarged spleen, is only lightly movable on bimanual palpation and there is slight tenderness to pressure. The dullness which is found over the mass fuses above with the cardiac dullness. The liver border and kidneys are not palpable. The extremities are negative except for edema of moderate degree of feet and ankles.

At this time the splenic outline was marked off with silver nitrate so as to preserve the original shape, etc. The pulse was 120, respiration 24, and temperature 98.3. Weight 60 kg. The total leucocyte count was 440,000 with small mononuclears 12%, large mono., neutrophils 30%, and myelocytes 58%.

The total red cell count was 1,900,000 with hemoglobin of 70%. There was also present irregularities in size, shape and staining qualities as well as nucleated red cells. Wasserman was negative. Phenolsulphone phthaline test 85%. Urine had specific gravity of 1005 with no albumin or casts but showed a Bence-Jones Proteinuria.

Blood Chemistry: Non-protein nitrogen 100 mg. in 100cc. of blood. Uric acid 6 mg. in 100 cc. of blood. Creatinine 2.5 mg. in 100 cc. of blood. (Basal metabolism plus 73.)

9-21-21—Total leucocytes 570,000, myelocytes 65%.

9-22-21—100 mg. radium applied over central portion of enlarged spleen, using a screen of $\frac{3}{4}$ inch of wood and two mm. of lead. Four applications were made in the twenty-four hours.

9-24-21—Nose bleed without cause.

9-25-21—Non-protein nitrogen 75 mg. per 100 cc. of blood; uric acid 5.8 mg. per 100 cc. of blood; creatinine 2 mg. per 100 cc. of blood.

9-27-21—Splenic border has receded about two cm. and patient feels generally better in all respects.

9-29-21—Total leucocytes 260,000. SM. 12%, neutro 55%, myelocytes 33%. Total red cells 3,370,000. Hemoglobin 85%. Basal metabolism rate plus 47. The patient was dismissed from the hospital with instructions to report weekly for blood count and observation.

Following this application it is noted that there was a decided and prompt reduction in the total leucocytes, decline in per cent of myelocytes, recession of the spleen, and improvement in the general clinical symptoms, with a fall in the Basal Metabolism Rate, and marked lowering of the non-protein nitrogen of the blood, with slight fall in the uric acid and creatinine of the blood. The red blood cells increased in number as did the hemoglobin per cent. A glance at the accompanying chart (Plate

III) will show that seven applications of radium have been made over the enlarged spleen. After each application there was noted a similar picture as presented above, but each succeeding application only improved the picture proportionately. In other words the more advanced the clinical picture the greater the seeming effect produced. After the fifth application a span of eight weeks existed in which no application was made due to the fact that the radium was difficult to obtain and also it was desired to see how long the effect would remain. After the sixth or seventh applications all phases of the disease have been controlled excepting the total leucocyte count which has gradually risen to 54,000. This individual will receive another treatment in a day or so and undoubtedly the count will fall again. It is interesting to note that all phases act uniformly or parallel to one another.

Today the patient presents a clinical cure with absence of all symptoms, complete remission of the disease, and decrease in the size of the spleen until it is just palpable beneath the costal border. All pathologic red blood cells have disappeared from the circulation, the total red count has risen from 1,900,000 to 6,650,000, with an increase in hemoglobin per cent from 70 to 95. There has been a marked tendency for all pathological white cells to be driven from the circulation but the differential count, while nearly normal, still possesses some immature cells. The neutrophile per cent has increased from 30 to 77 and the myelocyte per cent decreased from 58 to 9. At the same time the total leucocyte count has diminished from 570,000 to 30,000. The blood non-protein nitrogen has declined from 100 mg. per 100 cc. to 45 mg. per 100 cc. The uric acid of the blood has decreased from 6 mg. per 100 cc. to 4.8 mg. per 100 cc. The blood Creatinine has likewise shown a decrease from 2.5 mg. per 100 cc. to 1.3 mg. per 100 cc.

In the management of this case it will be seen that at no time was there an endeavor to force the total white cells to a very low number as this could have been readily accomplished after the second application of radium by diminishing the interval between the second and third and fourth applications. The idea was to obtain a gradual decrease in the remission in an endeavor to see whether or not the hemopoetic system would not re-establish its control over the production of these cells.

In conclusion, we have today three measures which show beneficial effect upon the course of Chronic Leukemias,—Benzol, Roentgen Ray and Radium. These all tend toward a clinical cure which is only temporary since all cases relapse after a time into the former state. Benzol should only be used in cases who have no access to X-ray or radium. It is not believed that splenectomy is justified, but if performed should be after reduction by X-ray or radium. The results from both X-ray and radium therapy are similar but those from the latter are more certain and have a tendency to longer remissions. While we have no permanent cure for the disease we can at least obtain a great improvement in the condition of the patient enabling him to pursue a normal life free of signs and symptoms for varying lengths of time and actually prolonging life. The use of X-ray and radium are the best remedies at our hands today.

Appreciation is hereby expressed to Dr. Andrew Friedrichs for his assistance by keeping up the the hemocytology; to Dr. W. Denis for chemical examinations of the blood; to Dr. Adolph Henriques for his valuable suggestions in the technique of management, for it was he who proposed the procedure of gradual reduction by applications over the central splenic area; to the Polyclinic Radium Institute, who, through Dr. P. Jorda Kahle, gave the use of the radium in the case; and to Dr. Hamilton P. Jones, for his assistance in determining the Basal Metabolism readings.

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DISCUSSION.

Dr. Hamilton P. Jones (New Orleans), opening discussion: I must commend Dr. Irwin for the hard work and painstaking care he has bestowed upon his subject and paper.

The blood chemical work and basal metabolic studies are additions of valueable data in these classes of cases, and so far as I am aware of are offered together for the first time.

While we are able to accomplish much by the use of X-rays and radium and secure apparently a clinical cure, the fact remains that the differential blood count never actually becomes normal, and it seems to me that we ought not to be too sanguine about these cases until that is also accomplished.

In considering the metabolic work done by me in cases of this type I have been very forcibly struck by the close parallels followed by the blood picture, clinical condition of patient and basal metabolic rate.

Dr. George S. Bel (New Orleans): The picture which Dr. Irwin presents means that we are dealing with a metastasis, which means that there is malignant disease somewhere else. Myelogenous leukemia is a disease primarily of the bone marrow, and the picture shown from the blood stream is a metastasis from this disease. In lymphatic leukemia the disease begins with the lymphatic nodes, and the spleen, and from there metastasises the blood stream and gives this clinical blood picture so beautifully described by the essayist. I feel that enlargement of the spleen is due to a hyperplasia, but the most interesting feature is the blood chemistry, together with the existence of the symptomatology, which we are led to believe is due to something else. Dr. Irwin stated that the uric acid was as high as 6 milligrams to 100 c.c. of blood. We all know that uric acid never exceeds 3 milligrams to 100 c.c. of blood. A correct interpretation shows that many of these symptoms may be attributed to marked anemia, but a greater proportion due to a toxic condition, both from toxemia and from chemical poisons. Shortness of breath is not only due to anemia, but to a marked increase of chemical contents which exist physiologically in the individual.

I have carefully examined Dr. Irwin's case only a few days ago. Originally this extended down across the pubes and filled the entire

abdominal cavity. His picture was one of distress and suffering with all the classical symptoms. Only three or four days ago I made a careful clinical examination and found his spleen scarcely palpable, his blood picture practically normal, the clinical phenomena less distressing and the malignant disease for a time arrested. I sincerely hope and trust that this will continue and that we may hope for better and longer action with the use of the X-ray and radium. I can recall some more cases, one of lymphatic leukemia after three and a half years, practically well, treated by Dr. H——, and a myelogenous leukemia, which he is treating according to his own individual method, in which the individual looks like a new man. I hope for a great deal from the treatment by X-ray and radium. If we can do no more than to prolong life from three to seven years, we have accomplished a great deal towards suffering humanity. I want to take this opportunity to thank Dr. Irwin for the presentation of his paper in such a masterly manner.

Dr. A. Henriques (New Orleans): I have been interested in the treatment of this condition for a good many years, and formerly treated these cases with the X-ray, but on account of the results which appeared in the literature scattered over a period of years, we thought we could secure better results by the application of radium. We have worked out (Drs. Menville, McGruder and myself) what we term an original technique in the treatment of melogenous leukemia. It is not original as far as the application of radium to leukemia is concerned, but as to the dosage and point of application of the radium over a certain portion of the spleen and the intervals between the treatments, we claim priority for it. The first case we had, after one series of applications over the spleen, showed a decrease of 790,000 leukocytes in 28 days. The decrease was so marked that in the next case that appeared, Dr. Harris, who throughout these cases has made most careful counts of the blood, encouraged us to go ahead with the next case which presented a spleen even larger than that shown by Dr. Irwin. We treated this particular case by making four applications over the center of the spleen. We figured that if radium probably acted through the blood we could get the best effects by treating the center of the spleen outside. Very much to our gratification the spleen drew in from the periphery, so much so that after 15 months we cannot feel these limits of the spleen. We selected the dosage of 2200 milligram hours, reasoning that this might be a carcinomatous condition, and we selected the dosage which we had found brought the best results in certain types of cases. We selected the interval of three or four weeks between applications because we found that the spleen stopped shrinking after a period of three or four weeks. We have been making applications at these intervals, controlling our work by careful blood count. One of these cases is in good shape after 15 months, and another after 18 months. We feel justified in drawing this conclusion: that in cases of splenomegaly and myelogenous leukemia, the spleen may be reduced to such that a point that it is not palpable; also that with radium over the center four rayings is sufficient, and it is not necessary to treat the periphery of the spleen. We have noticed that distant foci in both nipples have been overcome by treating the spleen. It is not necessary to radiate the long bones. The general condition is markedly improved. We attempted to regulate the splenic function in such instances rather than to cause sudden reduction of the spleen. We have had no burns at all. There has been practically no reaction except for twenty-four to thirty-six hours when the patient complains of loss of appetite. The condition shows a tendency to recurrence unless it is treated.

Dr. E. D. Martin (New Orleans): I would like to ask if any of these cases died, and if so, what did the autopsy reveal in regard to the spleen.

Dr. W. H. Harris: These lymphatic and myelogenous leukemias, from a pathological standpoint, can be put into two groups—the lympho-blastomata and the myelo-blastoma. They are regarded by many as tumors. In the instance of these diseases, aside from the metastasis that appear in the blood stream, there occur nodules in the various organs of the body—the liver, the heart, and elsewhere. The consequence is that they are most likely true tumors of a malignant type. Again, we have the infectious theory, especially represented by the work of Bunting and Yates in Hodgkins disease. A leukemia of the lymphatic type occurs in the fowl, which is transmissible by means of filterable virus. However, we must recall that in the lower animals there are a good many infectious *granuloma* which stimulate the true tumors in the human. For that reason we are not satisfied as to just what the etiology is, although pathologists as a whole lean to the tumor theory. We know that in the application of these various rays we may obtain to some extent what the surgeon does through some of his malignancy operations—i. e., he extirpates his primary nodule and his patient does well for a considerable period of time, but very often after five years there are evidences of recurrence. I have never seen anything more striking than the first case that Dr. Henriques mentioned, the man having a count of 880,000 leukocytes, which dropped down within four weeks to 21,000, with a distinct change in the patient, an increase in weight and marked improvements in the red blood system. The consequence is that we cannot but hope that good results will ensue from this source.

In regard to Dr. Martin's question, I do not know what the autopsy reports on such treated cases are, because where they die the spleen is very much enlarged and we have the same pathological picture that we would if the case had not been treated.

The red blood portion is a very striking picture, and, aside from the fact that we aid the hematopoietic system itself, we also overcome this enormous spleen which acts as a red blood cell destroyer and no doubt is destroying a tremendous number of red blood cells. When we bring the spleen back to its normal size we overcome that feature and at the same time we aid the hematopoietic system.

Dr. T. B. Sellers: I would like to report a case of lymphatic leukemia: A very close friend of mine was taken suddenly with a pain in his left side; unable to locate me at the time he called the first physician he could get. A diagnosis of pleurisy was made and left side strapped in Z-O plaster, which gave a great deal of relief. It looked like a typical attack of pleurisy. I did not remove the plaster, thinking it was a case of pleurisy.

On taking a careful history found patient had lost 60 lbs. during the past four months. He had been very much disturbed over his condition, but was afraid to consult a doctor for fear he would find something wrong with him.

I made a routine examination and found: Heart and lungs, negative; general glandular enlargement; spleen, about 4 inches below costal cartilage; urine, negative.

Blood count—Total white, 32,000
Differential white, 75% lymphocytes
Total red, 2,000,000
Hemigloben=55%

I thought, of course, it was a case of lymphatic leukemia, but with a comparative low blood count for a case of (lymphatic leukemia) I hesitated to make a diagnosis which would, of course, have necessarily given him a bad prognosis.

I had Dr. J. B. Guthrie examine him. He had another blood count made with practically the same report as given above. He confirmed my diagnosis and advised the use of either X-ray or radium over the region of the spleen and over the enlarged lymphatic gland.

We decided to use radium. The spleen was divided in squares and 100 mg. of radium was applied to every other square, after screening it with about $\frac{3}{4}$ -inch beeswax, for a period of four to six hours over each square. Same technique used over the glands. I do not recall the exact number of milligram hours of radium used. About one month later another blood count was made.

Blood count—Total white, 4,000
Lymphocytes, 50%
Haemoglobin=75%
Total reds markedly increased

He gained in weight and said he felt as well as he ever did.

Several blood counts were made during the past year. The last one showed:

Blood count—Total leucocytes, 20,000
54% lymphocytes
Total red, 4,000,000
Haemoglobin=80%

I advised another application of radium. The first application was made one year ago this month.

Dr. Emmett H. L. Irwin (closing): I wish to thank each one of the gentlemen discussing this intensely interesting subject for their kind remarks and the points brought forth by them. The subject is so large and the time so brief that many things in this paper have not been presented here. Referring to the question of Dr. Martin, I regret to say that I have been unable to find in the literature the histo-pathologic findings in the spleen of a case of myelogenous leukemia after radium therapy. The experimental work of Lerm, reported in the Amer. Journal of Roentgenology for February of this year, shows the presence of a necrosis with surrounding endodaritis in the spleen of normal rabbits after the implantation of radium needles. I should hardly expect to find a necrosis of splenic tissue after surface application. I feel that great hope rests with radium therapy in these cases, and should we only add to an individual's life three to eight years, the effort is worth the while.

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EDITORIALS.

MOSQUITOES MUST BE DESTROYED.

Time and time again in past years this *Journal* had advocated the destruction of mosquitoes because they were not only distressing pests but also the known propagators of two serious diseases and the possible disseminators of others.

After some severe lessons, costly both in lives and in treasure, measures were taken tending to the destruction of yellow fever mosquitoes in this city, especially by means of the elimination of cisterns. Very little attention was paid to this matter in the interior of the State, however, hence, while we have been com-

paratively free from the dangerous mosquito in New Orleans, conditions have remained unchanged over the rest of the State. We say *comparatively* free advisedly for it has been generally known for several years that the stegomyia could be captured with ease in this city notwithstanding the fact that the health authorities said and apparently did nothing about it.

Were we living in a fool's paradise? Given the introduction of a case of yellow fever from the tropics (not an impossibility) would we not have had a certain degree of dissemination of the disease before becoming aware of its presence? Is it necessary to outline even what this would have meant in suffering, probable loss of life and positive financial sacrifice before the outbreak could be controlled?

It is true that the damage nowadays would not be comparable to that which used to follow in the days before the method of transmission of yellow fever became known, yet it would be surely serious enough to make it worth our while to prevent its occurrence.

The recent prevalence of dengue in this State provides a good illustration of conditions and teaches a valuable lesson if we want to read it right. According to the conclusions reached by the investigators of the State Board of Health dengue is a mosquito borne disease, the agent for its transmission being the *aedes egypti*, better known as the stegomyia fasciata. We know that we passed through what could be termed an epidemic of dengue in this city and State during the past few months, hence there must exist a large or sufficient number of stegomyia pretty much all over the State and an analagous situation could therefore prevail with the substitution of yellow fever for dengue.

What more need be said in order to emphasize the necessity for a vigorous anti-mosquito campaign?

We have noticed with satisfaction that our health authorities are preparing to take action in the proper direction. The entire medical profession should endorse and support their efforts while the general public should be taught to realize the importance, nay, the urgency for the timely institution and the early completion of the necessary measures.

To paraphrase the oft repeated urge of the Roman against the Carthage, the mosquito must be destroyed.

THE CHARITY HOSPITAL VISITING STAFF.

The Charity Hospital Visiting Staff is now actually in the process of reorganization. While the necessity for changes in the staff have long been recognized, the problem of reorganization is complicated by so many ramifications, that each administration has apparently "passed the buck" to its successor. With the object of procuring the best possible care of patients, the superintendent offered to the Visiting Staff a "tentative plan" for reorganization. The Executive Body of the Visiting Staff authorized the appointment by its president of a committee with full power to act in the premises.

Considering the intricacies of the problem of reorganization and the latitude vested in the committee, the selection of at least part of the committee was unfortunate. It is to be regretted that the president could not use the same discrimination in the selection of the entire committee as he did in the case of the majority.

One would have expected to see represented more men with special qualification for judging of hospital needs, by reason of their long "indoor" service or personal administrative experience. This discrepancy in the personnel of the committee should not, however, jeopardize the chances of adoption of the three fundamental changes embodied in the "tentative plan"—these are so palpably correct from the hospital standpoint, as well as *for the good of the patient*, that they can hardly fail of recognition, even by those members of the staff whose only hospital connection has been the out-door clinic or the occasional making of ward rounds.

The segregation of fractures is a condition long anticipated and hoped for and should be adopted irrespective of any immediate effect upon the individual member of the staff, or any previous school appointment. The benefits to be derived from this, *for the good of the patient* are so immeasurably great, that *anything* else is of minor consideration.

The same can be said of the segregation of orthopedic cases. Here again, there is so much to be gained *for the patient*, that any other consideration fades into insignificance.

The third great principle which must be recognized, *for the good of the patient*, is that staff appointments should be dependent actually, instead of nominally, upon the hospital authorities. From the administration or hospital standpoint, this is the

only logical proceedure. That the superintendent and through him the board of administrators should welcome suggestions from individuals or schools, there is no question. But the real basis for appointment, *for the good of the patient*, should be the previous record of the individual as regards personal service rendered by him to the hospital. By this means and by this means only will be procured constant, consistent attention to the patient, irrespective of whether "the class" is in attendance or not; by this means only will be eliminated the pernicious self-authorized leave of absence; by this means only will the hospital be able to retain the valuable services of an individual, if he should happen to sever his school connection; by this means only will there be guaranteed for the patient, the same attention during vacation in June or during school time in January.

Should the reorganization accomplish nothing else but the establishment of these three fundamental points it might still be said of it, that it was really, even overwhelmingly, *for the good of the patient*.

THE INDIGENT SOUTHERN DOCTOR.

Considerable impetus was given the project for the foundation of a "Home" for incapacitated and indigent doctors in the South, by the endorsement of the movement, by the Southern Medical Association at the Chattanooga meeting.

The plan originated in the La. State Medical Society. The idea was first presented to the Society by the president in his inaugural address and the matter is now in the hands of a committee which is to report to the House of Delegates at the April meeting next year.

One of the most pitiful spectacles is that of a member of the fraternity who from infirmity, disease, old age, or from a combination of unfortunate circumstances, finds that he is incapable of looking after himself in the latter years of his life. Such cases are fortunately few, but nevertheless deserve the full consideration of the profession. The movement is most laudably altruistic and it is to be hoped that every member of the Society will lend a hand for the furtherance and successful culmination of a project which will forever redound to the credit not only of the State Society, but of the entire medical profession of the South.

SOCIETY PROCEEDINGS.

**PROCEEDINGS
OF THE****HOTEL DIEU STAFF.****Monthly Meeting for December, 1922.****The President, Dr. Homer Dupuy, in the Chair.****INTRA-ABDOMINAL INJURY.**

Dr. J. M. Hountha reported the case of a male, aged 46, who had fallen from a ladder from a height of five feet, striking the abdomen anteriorly. He was seen first five days after the accident, with hicough, nausea and vomiting and abdominal distention. The patient was well nourished. Abdominal examination revealed no tumor or tenderness anywhere. Pulse, 78; temperature, 97.6; respiration, 26. Urine examination negative. T. W. C. 21,100; Neutr. 95%. The abdomen became progressively distended. Two days later T. W. C. 23,800; Neutr. 94%. Urine showed albumin 1%. Exploratory operation decided upon three days after admittance to hospital. Mid right rectus incision. The peritoneum was opened and two quarts of sero-sanguinous fluid liberated. Laboratory report, fluid containing blood. Cultures were negative. No adhesions anywhere. Nothing grossly abnormal found in abdomen. Two cigarette drains left in cavity and abdomen closed. Drs. Nix, Salatich and Cirino were associated with Dr. Hountha at operation. Death occurred within twenty-hours after operation—patient vomiting large quantities of dark brownish fluid to the end. The feature of main interest in the autopsy held by Dr. M. Couret, was that the right kidney was twice normal size, otherwise normal; the left kidney consisted of an “elongated cyst” and the ureter on this side was completely obliterated. It was the opinion of the pathologist that death was due to a hemorrhage from a rupture of the left cystic kidney.

Dr. WALTHER pointed out that, from the history, the case appeared to be one of hemorrhage from a hydronephrotic kidney which had been ruptured by the blow. He regretted that the pathologist had not preserved the specimen. That the left ureter was obliterated undoubtedly accounted for the negative urine reports. Certainly cystoscopy and ureteral catheterization would have decided the matter definitely and it was indeed to

be regretted that the urologist was not called in. A phthalein reading, which was not done, might have thrown some light on the renal function.

DR. CHALARON could not agree with the diagnosis of "cystic kidney" as made by the pathologist and felt, with Dr. Walther, that the case was one of hydronephrosis. Autopsy demonstrated that the patient had been living off the other kidney.

DR. FICKLEN had had a case of injury with retro-peritoneal hemorrhage recover in a patient who had been stepped on by a horse. The man had marked varicose veins along the anterior surface of the thighs. Due to extreme shock and pulse study it was easy to diagnose the case. In another case, mistaken for extra-uterine pregnancy, operation revealed the left kidney at fault with ulceration of blood vessels. There was a mass in the side and had ureteral catheterization been insisted upon the case would have been diagnosed before operation.

DR. DANNA was not of the opinion that the kidney had caused the death of the patient. Whatever it was, there was something keeping up the flow of blood into the peritoneal cavity.

DR. BLOOM related a similar case, that of a little boy who had fallen off the back of a wagon injuring his side, followed by voiding bloody urine.

The day following injury urine was apparently clear. Operation revealed ruptured kidney.

DR. NIX, who had seen the case with Dr. Hountha, considered it one of injury to the intestines. He had also considered ruptured spleen. Just before operation T. W. C. was 96,000. He felt that toxemia was the cause of death.

DR. COURET related that he had removed a quart of blood fluid from the peritoneal cavity at autopsy besides the two quarts of bloody fluid Dr. Hountha removed at operation. He considered the death due to hemorrhage.

CYSTIC GOITRE.

Dr. C. J. Bloom presented the following case:

Clara E., age 8 years.

Family History: Negative for any hereditary disease. Four of the eight children in family died in infancy and one succumbed to injury. Father and mother living and healthy. One of four living children. One died with history of spasm. Other than the fact that the father's grandmother had goitre, there is nothing of interest in this connection. Birth and past history reveal nothing.

Past history: Had whooping cough, measles and influenza but, inasmuch as these conditions were prior to five years of age, they bear no relation to this present condition.

Present history: Patient came for observation, having had a goitre for past three or four months. She is seventh child of eight children of healthy parents. She is undersize, underweight, and apparently very anemic. Her eyes seem to protrude somewhat, although exophthalmos is not pronounced. The pupils are slightly unequal, the right pupil being larger than the left, and the protrusion of the left eye is much more pronounced than that of the right. An adenoid expression is evidenced. Her teeth are ill-kept. The two centrals are serrated and the upper right lateral incisor is notched. She has eight teeth of the second set. Her tonsils are low hanging and somewhat enlarged. The goitre is rather cystic in character, and more pronounced on right side than left. Measurements taken on top of margin: Circumference is $11\frac{3}{4}$ inches.

Physical examination: Heart does not show any enlargement; pulse rate is 79 per minute. Physical examination otherwise negative.

Laboratory findings: Hemoglobin 55%, total white 16,250, total red 2,505,000, small 34, large 5, neutrophile 57 eosinophile 3, B. 1; urine, A. M., acid, 1015, F. Epith. F. pus, F. clumps; P. M., acid, 1012 m. crystals, F. Epith. F. pus, F. clumps.

The tremor when noted was negative, blood pressure normal, rhomboid sign negative.

From that time up to present Dr. Bloom has been watching size of tumor, weight and height. At this time circumference of tumor is 12 inches. Weight 44 pounds, height 47 inches.

Up to present time, no indications of pressure.

HYPOPITUITARISM.

A case of pituitary obesity (Frolich's disease—dystrophy adiposogenitalis), was presented by Dr. Charles Bloom:

Thomas M., age $12\frac{1}{2}$ years, was first seen on July 25, 1922, for an endocrine disturbance and a haemophilic tendency.

Family history: Father and mother living and healthy. Mother is 42 years of age and weighs 145 pounds; father 52 years of age and weighs 128 pounds. There is one sister his junior who does not show any particular tendency relative to these conditions at this time. Other than a sister of his mother having contracted pulmonary tuberculosis in recent years and with whom he has not come in active contact, the family history is negative in every respect. An attempt was made to bring out in the family history some particular member or members who may have died suddenly of an endocrine disturbance or who may have been expressions of the various other endocrine disturbances so often met with in a case similar to this.

Birth history: Full-term, normal delivery; weighed about 9 pounds.

Past history: As far as the father can remember, the child was normal in regard to the various questions propounded concerning standing, walking, etc.

Present history: Dr. S., who referred the case, accidentally saw this child when paying a visit to the home of his parents. He had had several so-called "bleeding spells" with minor accidents and had always noticed that he had, on various surfaces of his body—particularly those where pressure was made—ecchymotic spots. Within the past two or three years the father did, on frequent occasions, mention that his son had gained what he thought was more than the average child of his particular age does in height and weight.

Simply to illustrate how one might, offhand, overlook just such a case, a superficial examination revealed the following: Height, 61¾ inches; weight, 123 pounds; head, 21¼ inches; chest, 35 inches; abdomen, 26 inches (over height, over weight); history of bed-wetting; backwards in teething; submerged, cryptic tonsils; mucous membrane of the nose somewhat congested; small genital organs with no evidence of pubescent hair; infantile voice; ecchymotic spots distributed over the entire body, particularly on the back, hips and legs. The skin is dry and somewhat bluish; the superficial fat hangs in folds, particularly in the vicinity of the mamma, extending to the umbilicus; from the umbilicus extending to the mons; and from the flanks extending to the middle of the thighs.

Following the routine examination, it was decided that this case represented a type of pituitary disturbance and, after thoroughly



Cystic goitre in a child 8 years old.
Case of Dr. C. J. Bloom.

detailing the data obtained in a rather gross way, a diagnosis of **hypopituitarism** classified as a pre-adolescent type of the subdivision of pituitary obesity, sometimes known as "Frolich's disease—dystrophy adiposogenitalis"—was made.

Symptomatology: The following symptoms were not particularly marked in this case:

1. Morning headaches, occasional gastric disturbances.
2. Marked softness and early regeneration of the teeth with a tendency to crumbling.

Those particularly marked are:

1. Slight dyspnoea which varies at times (particularly marked when excited).
2. Mild general hyperaesthesia.
3. Vertiginous attacks (of little importance).
4. Smartling and lacrimation and diminution in visual acuity.

5. Remarkable gain in weight (about 30 to 40 pounds in the last two years).

Duration: Apparently up to three years ago, the child seemed of the average weight and height. This remarkable gain in weight particularly—and to a lesser extent in height—has only been noted since the past three years.

Course: (a) Onset rather sudden; (b) as the history states, the delivery was normal and the baby was breast fed up to 9 months, with no early gastric disturbances so often seen.

Progress: The obesity has been increasing consistently until now he weighs 123 pounds. Although he has attempted to diet and has exercised a bit more than the average boy of his age, he has continued to gain in spite of all. With the gain in weight, the fat padding in and about the mamma, umbilicus, mons, etc., has been increasing in size and somewhat in distribution. The fat padding is most prominent now about the neck, mammary glands, umbilical region and over the mons.

This typical girdle obesity extending down as far as the middle of the thighs is very evident, and a fact which bears note is the comparison between the arms and legs, which are not affected as are the upper parts of the thighs.

(Genitalia and sexual characteristics and other signs will be considered under their respective headings.)

Feeding history: Breast fed for nine months, then a graduated diet with no history of gastro-intestinal disturbances.

Past history: Measles, whooping cough, frequent attacks of tonsillitis, and chicken pox. No history of operations or injuries.

Personal history: Appetite splendid (however, does not overeat). Sleeps all night; bowels regular; has been wetting the bed for a good many years (more so recently).

Examination—general: Very obese, with rather marked girdle adiposity, somewhat marked hypogastric folds and padding. The long bones of the body are short and the hands are particularly small in comparison with the body as a whole. Although the hand is rather broad (sometimes termed a "cadet" hand), still the fingers are rather long in comparison. The feet are small (he wears a No. 4 shoe). There is slight cuffing of the ankles. Other than one or two scars and a good many ecchymotic spots with a dryness of the skin and a bluish appearance of same, there are no other dermatological points of interest. There is complete absence of marked secondary sexual characteristics; axillary and pubic hairs absent. The hips are broad and full with marked padding in the lateral aspects and in the axillae. Hyperesthesia rather limited. The veins of the chest are rather prominent. The neck is somewhat short with marked fullness posteriorly. The genital organ is infantile and the testicles are each the size of a small pecan. Temperature normal.

Measurements: Height, 61 $\frac{3}{4}$ inches; weight, 123 pounds; height from vertex to symphysis, 26 inches; from symphysis to soles of feet, 35 $\frac{3}{4}$ inches; circumference of the head, 21 $\frac{1}{4}$ inches; circumference of the chest, 35 inches; abdomen, 26 inches; length of the arms, 33 $\frac{1}{2}$ inches; length of legs, 35 $\frac{3}{4}$ inches.

Regional—Head: Hair is normal in texture but somewhat dry. Lanugal growth between the eyebrows in supra-orbital regions, only slightly marked. Head is small and rounded.

Ears: External ears are well colored; however, no tophi.

Eyes: Eyebrows and lashes are long but thin. Pupils and muscles of the eye are negative.

Nose: The bridge of the nose is small and the mucous lining is somewhat reddened.

Mouth: The mucous membrane is reddened. Tongue is somewhat large and coated; one or two teeth show a pointed lateral por-

tion, but, on the whole, there are no serrations or crumbling or decay so often noted in this type of case. The tonsils are submerged and cryptic.

Neck: Very short and veins somewhat prominent. Thyroid and glandular groups show no pathology.

Chest: There is marked axillary padding, peculiar flaring of the hips. Marked mammary development with a similar appearance of the abdomen down to the mons, the fat falling in successive ridges, more marked below the umbilicus than above it.

Abdomen: Slight sensitiveness over the entire abdomen and large folds of fat previously described. There is no pain, tenderness, increased resistance or rigidity; no tumefaction or dullness over the abdomen.

Liver, Spleen, Kidneys, Colon: Exhibit nothing unusual.

Genitalia: Have been described previously.

Extremities: Long bones are very short. Hands are small with dorsal padding, particularly on the dorsal aspects of the first phalanges. The nails are small and the fingers correspondingly long. Thighs are very full, down to the middle portion, where they then assume a normal proportion, dropping off considerably in diameter. The legs are well formed. There are ecchymotic spots present on the lower extremities. Feet are small, some padding around ankle.

Reflexes: Achilles, patellars and cremasterics present. The other reflexes are negative.

Laboratory findings: A. M., urine, acid 1015 M. Epith. F. crystals. P. M., acid 1018 M. Epith. occasional pus, trash.

Blood: Hem. 75%; coagulation 15 min. Total white 7,250, total red 3,750,000. S. 62, L. 7, N. 31, E. O. B. O.

X-Ray: Enlarged sella turcica; the anterior clinoid process not seen. Examination of the right hand shows the bones of a marked infantile type. (By Drs. Samuel and Bowie.)

The basal metabolism rate is minus 20%. (Dr. H. P. Jones).

Blood pressure: Systolic 138; diastolic 90; pulse 80.

Final diagnosis: Hypopituitarism, bilobar involvement, pre-adolescent variety, without pituitary neoplasm. The basis for the diagnosis of hyposecretion of the two lobes in this case is as follows: (1) Anterior lobe: (a) arrested skeletal development of small bones; small hands, head and sacral bones; (b) aplasia of the genitalia. (2) Posterior lobe: (a) history of sudden rapid gain in weight; (b) classical girdle and mons adiposity; (c) slow pulse, decreased basal metabolism rate.

**PROCEEDINGS
OF THE
TOURO INFIRMARY STAFF.**

Monthly Meeting for December, 1922.

The President, Dr. M. Feingold, in the Chair.

NEUROMA.

DR. ISIDORE COHN presented a case of Neuroma of the median nerve.

History: On July 12, 1915, the patient attempted to push open a glass door, the glass broke and cut her on the forearm just above the wrist. Emergency treatment consisted of coaptation skin sutures. Five weeks after the accident, she was referred to the surgical clinic by Dr. Henry Bayon because the patient had noted the loss of sensation in several of her fingers and because of her inability to extend her hand and wrist completely.

Examination: August 16, 1915, marked atrophy of thenar and hypothenar areas, atrophy of the palmar muscles as well as those of the fingers. 2. Glossiness of the skin covering palm, thumb, index, middle and ring fingers. 3. Limitation of extension of the wrist and hand.

Operation, August 31, 1915. Novocain $\frac{1}{2}$ per cent was used. The median nerve was exposed above and below seat of injury. It was found enclosed in a sheath of scar tissue which was constricting the nerve. Neurolysis was then done. The palmaris longus tendon as well as the flexor tendon of the index finger were found severed and the ends retracted considerably. These were approximated and the ends sutured. At the end of two months, she was able to completely extend her wrist. Sensation was improved.

September, 1916,, she noted a recurrence of pain and a swelling which was painful under the scar of the previous operation. She was advised to discontinue exercises, particularly piano playing. Believing this painful mass to be a neuroma, Dr. Van Wart was consulted and he confirmed the opinion. On April 11th, 1917, a general anesthetic was administered—the median nerve was exposed, neuroma was found, the mass being about one inch in length.

The nerve was cut well above and below the new growth and the two ends of the nerve were approximated—silk sutures were used. The wrist was put into position of palmar flexion and a dorsal plaster splint applied so as to maintain the position of palmar flexion. On May 18th, she had a complete return of sensation—touch as well as pain. She was not at this time able to distinguish between hot and cold. Since 1918 she has been able to do the work of an operator in the Western Union Telegraph office, using her typewriter without difficulty. Her muscle power has improved gradually until at the present time the grip in the injured hand is almost as good as in the opposite hand.

DR. COHN said that when doing nerve suture, there should be as little tension as possible on the suture line—this was accomplished in this case by placing the wrist and hand in the position of palmar flexion. 2. There should be no pressure on the suture line. In order to accomplish this, the splint that was used was applied to the dorsum of the hand and not on the palmar aspect. 3. Delayed nerve suture in this case gave as good a result as might have been gotten by an earlier suture. 4. It should be accepted as a principle in the treatment of lacerated wounds, that an examination should be made at the time of the primary treatment to determine whether there has been an injury to nerve or tendons and where possible primary suture of the injured nerve and tendons should be done.

TUMOR OF MEDIAN NERVE.

DR. COHN presented a case with a Tumor of the Median Nerve.

The pre-operative diagnosis was neuro-fibroma, Recklinghausen's Disease.

Treatment: Resection of median nerve for removal of neuroma. End to lateral implantation of distal portion of median nerve into ulnar nerve. Result: Return of sensation in the distribution of the median. Case Report: Mr. J. C. Patient referred from Medical Clinic because of a lump in his right arm which has been present six to eight months. He says that it followed sudden strain; he was not immediately incapacitated. He continued to work as if nothing happened. No immediate swelling nor ecchymotic areas. Since accident pain has become more acute. He has noticed loss of muscle power in that he could not raise heavy articles as before. Apparently right fore-

arm is larger than left. Carrying angle is diminished. Circumference of left elbow is $11\frac{1}{2}$, right 11. Left wrist $7\frac{1}{2}$ and right $7\frac{1}{4}$. Middle of forearm, left $10\frac{1}{2}$, right 9. No limitation of supination or pronation or flexion, but there is some extension. Diminished power of flexion of right wrist. Atrophy of thenar muscles as well as pain. Difference in color of fingers. Glossy as compared to left hand and skin of right hand is soft as compared to left. Hyperesthesia of thumb, index and middle finger.

Examination of tumor: On inner aspect of right arm about 2 inches above internal condyle is a mass which extends down to internal condyle, forward to the level corresponding to insertion of biceps. Mass, hard, tender to touch, not adherent to skin. Slightly movable. Skin movable over it. Mass is not pulsating and is definitely on inner aspect medial to the biceps muscle.

Operation: Incision about $3\frac{1}{2}$ inches long on the inner side of the biceps muscle corresponding to the course of the brachial artery. As soon as the soft tissue was dissected away, muscle retracted, the large mass with the blood vessels came into view. The median nerve was isolated above the level of the tumor and a pair of forceps insinuated between the brachial artery and the median nerve to act as a support. After this the dissection of the tumor which was continuous with the median nerve was carried on and the mass was entirely separated from the brachial vessels. It was shown to be a spindle shaped mass about $2\frac{1}{2}$ inches in its long axis and $\frac{3}{4}$ of an inch in the transverse axis. In one place on the outer aspect of the mass, it had broken through the sheath of the nerve and at this level the tumor had a bluish hue as though there had been a slight hemorrhage. The lower limit of the tumor was just above the bicipital fascia.

Novocain was injected into the median above the level of the neuroma and a section made of the nerve above the level of the tumor. Then the nerve was sectioned below the level of the tumor. This left a distinct gap of about $3\frac{1}{2}$ inches. It was impossible to consider an elongation of the nerve to close the defect, and, therefore, the question of where to graft the distal end was considered. It was decided to utilize the ulnar nerve. This was exposed behind the internal condyle and the nerve isolated and mobilized. With a pair of forceps, a tunnel was made under the Pronator Teres. The median nerve, distal

end, was brought through the tunnel and grafted into the lateral aspect of the ulna. Fine silk was used. The central end of the nerve, which was cut, instead of leaving unattached, was sutured to the internal cutaneous which was exposed in the wound. The wound was sutured in tiers, fine catgut used to approximate the muscle to the subcutaneous tissue and then Michel clips for the skin. Two silk worm gut sutures were used and the exposure of the ulnar nerve was sutured with plain catgut. Gross section of neuroma showed that it contained a good deal of connective tissue and some degenerative areas which look like colloid material, looking like a sarcoma.

DR. LANFORD felt that it was difficult to get the true idea of how the specimen looked by examining it in the gross as it had been split open and, too, the illustration was not quite true. It was cylindrical in shape, measuring about 10 cms. in length by 3 cms. in thickness at its widest portion. The upper extremity was made up of the nerve itself and the individual fibres could be made out stretching over the bulbous portion of the growth, coming together in the lower extremity as small fragments of their original size. There was about its middle portion an oval very much congested mass which was very cellular in appearance. On sectioning, there was relatively little resistance to the knife and the cut surface presented a cellular appearance of pinkish gray color showing many areas of a dirty, yellow necrosis. There was no suggestion whatever of the gross pictures of Von Recklinghausen Disease. On studying the microscopic sections it was found the growth is made up of embryonal epithelial cells which were differentiated into glandular acini, and the picture was that of an adenocarcinoma.

The origin of this growth was quite obscure as primary adenocarcinomas do not occur in the nerve structure and there was no evidence of a growth elsewhere in the body which would explain this as a metastasis. It was hardly conceivable that this growth could be produced by a cell, epithelial in character, that would carry during embryonal development from the central nervous system. It was difficult also to think that certain of these nerve cells had reverted to the embryonic state and instead of forming nerves had formed a glandular structure.

DR. COHN reported that the patient had sensation in the thumb, index, middle and ring fingers at the present time and

gave evidence of return of muscle power, as noted in his grip. He was also able to differentiate between hot and cold. He was able to make a fist.

In studying nerve injuries reference to anatomy must be made in order to determine what particular portions of the nerve are involved. In this case the atrophy of the upper portion of the forearm was accounted for by disturbance of the branch to the pronator teres. The median supplies by muscular branches all superficial muscles of the front of the forearm except the flexor carpi ulnaris. The anterior interosseous supplies the deep muscles of the forearm and the flexor longus pollicis. The palmar cutaneous branch supplies the skin over the ball of the thumb and the integument of the palm of the hand, the digital branches of course supplying the fingers which were involved. The result in the case of lateral implantation seemed to bear out the work of Ernest Sachs who claims that lateral implantation is equally as satisfactory as end to end suture. It is necessary to control hemorrhage before suture. Sachs recommends the injection of salt solution into the end of the nerve rather than catgut ligature. Catgut and silk are advocated by separate groups of surgeons. Most of the work of Dr. Cohn, was done with silk, and he found very little if any bad results following the use of silk. One should avoid traumatizing the nerve wherever possible. Tension on sutures was to be avoided. In order to this, flexion of the elbow is desirable.

Dr. MAES felt that the important point to be brought out by the cases was the excellent functional result, and some of the features commented on from the operative side. Large experience in nerve suture during the war forced the conclusion that the use of fascia lata and other methods of tubulization were unnecessary. Dependence was placed on minimizing, scar tissue and relief of tension. It was often feasible to bury a sutured nerve in healthy muscle so as to avoid any external pressure. Some of the points brought out by Sachs in his recent article were worth calling attention to and rather simplify nerve suture. Tubulization with veins or any other substance seems to be unnecessary. He thought Dr. Cohn's results were excellent.

NERVE SUTURE.

Dr. P. G. LACROIX reported the case of a girl who was hurt on May 2nd, 1922. She had severed the ulna and median nerves, palmaris longus, sublimis digitorum, flexor carpi radialis and ulnaris tendons.

He also showed another similar case which happened in 1921. The wound also was on the right wrist. The patient had fallen on a milk bottle. At present, he also has good function. Sensation to heat and cold and to pointed objects was normal.

A wound about one inch long was found, debrided and then enlarged. The median and ulna nerves were cut and also the palmaris longus, sublimus digitorum, flexor carpi, radialis and ulnaris tendons. The tendons were sutured by using fine black silk and the nerve was sutured with 00 ehromic gut, trying to go through only the nerve sheath. Following this the hand was immobilized with a plaster splint in palmar flexion. Sensation was normal in all of the fingers except the ring and little fingers two months later. After three months, sensation returned in all fingers (Aug. 17). When last seen, sensation was normal to heat and cold and to pointed objects. The gripping power of the right hand was equal to the left.

In the second case the wound was just about one-half inch long. The same procedure was followed. The wound healed by first intention. About March 8th he had sensation in the fingers supplied by the median nerve.

The little and ring fingers did not have sensation until May 4th, 1921. More trouble was experienced with this case than the other because of flexion of the distal phalanx of the ring and little fingers. This was finally overcome and at present the function of the right hand was normal. Sensation was also normal.

The important point in these two cases was not to be misled by the size of the wound as it was never an index of the extent of the injury to the soft tissues; second, the part should be immobilized to relieve the tension from the suture line.

SYNDACTYLISM.

Dr. LACROIX also showed a case of Syndactylism of the ring and middle finger of each hand. She was the only one in the family who had the condition. The right hand had been oper-

ated on while the left had not. He said there were four types of syndaetylysm, the simplest being just a membrane between the two fingers; the second, an extension of the normal web in which class this case belonged; third, where the union consists of skin and faseia fusing the two fingers into one with only one nail for the two, and, fourth, the most severe type, an osseous union of all the bones of the hand.

This ease was operated upon under general anesthetic. Didot's operation was performed using palmar and dorsal flaps. An incision was made over the mesial aspect of the ring finger; another over the lateral aspect of the middle finger; the palmar flap was then sutured to the middle finger and the dorsal flap sutured to the ring finger. Many operations had been devised for this ranging from the splitting of the membranes to the more complicated plastics as used in this case. The hand now had a normal appearance.

NEWS AND COMMENT.

AT THE ORLEANS PARISH MEDICAL SOCIETY was celebrated the Pasteur Centennial, on December 11, 1922. The program follows "The Life of Pasteur," Oliver L. Pothier, M. D.; "Pasteur's Contributions to Chemistry," Hal W. Moseley, M. Sc.; "Pasteur's Influence on Bacteriology and Pathology," John A. Lanford, Ph. G., M. D.; "Pasteur's Influence on Hygiene," William H. Seeman, M. D.; "Pasteur's Influence on Medicine," Joseph D. Weiss, M. D.; "Pasteur's Influence on Surgery," Herman B. Gessner, M. D.; "Pasteur's Influence on Gynecology," Edward L. King, M. D.; (Pictures of Tomb and Institute of Pasteur).

ON DECEMBER 12, THE SEMI-ANNUAL MEETING OF THE FIFTH DISTRICT MEDICAL SOCIETY MET IN MONROE. Dr. Paul J. Gelpi, New Orleans, and Dr. J. L. Scales, Shreveport, delivered addresses.

DR. WM. T. PATTON, NEW ORLEANS, at the annual meeting of the Kiwanis Club of New Orleans, was elected president of that body. Dr. T. B. Sellers was elected one of the trustees.

AT THE RECENT MEETING OF THE SOUTHERN SURGICAL ASSOCIATION, held in Memphis, and presided over by Dr. C. Jeff Miller, New Orleans, the association elected Dr. Urban Maes, New Orleans, its treasurer. White Sulphur Springs, Va., was selected as meeting place for 1923 meeting.

WORK ON THE PROPOSED PROFESSIONAL BUILDING FOR PHYSICIANS, in New Orleans, has been suspended as a result of refusal of the city to grant a building permit. It appears that several petitions had been presented city authorities from those residents in the vicinity of Prytania and Delachaise streets, against the project.

THE ORLEANS PARISH EYE, EAR, NOSE AND THROAT CLUB, at its annual meeting, elected the following officers: Dr. A. J. Weil, president; Dr. Wm. T. Patton, vice-president, and Dr. C. A. Bahn, secretary-treasurer.

DR. K. E. MILLER, SURGEON, U. S. P. H. S., has been detailed by Surgeon General Cummings to Louisiana to aid in the campaign against the dengue fever.

THE OUACHITA PARISH MEDICAL SOCIETY, at its annual meeting, in Monroe, elected the following officers: Dr. J. W. Walsworth, president; Dr. C. H. Moseley, vice-president, and Dr. P. L. Perot, secretary-treasurer. Dr. G. M. Snelling was elected delegate to L. S. M. S. meeting in 1923.

DR. JOHN F. OECHSNER, PRESIDENT OF STAFF OF CHARITY HOSPITAL, New Orleans, is discussing with a special committee ways and means for better and more systematic care of the patients in said institution. The hospital staff will probably be reorganized also. It is planned to reduce the number of chiefs of services. A separate fracture service in the hospital will be created. To accommodate this new service the committee will consider the proposed erection of a new building which will cost approximately \$100,000.

THE CHILD WELFARE ASSOCIATION, New Orleans, recently opened a new maternity clinic at 1900 Franklin Ave. Dr. E. L. Zander is in charge.

THE UNION INDEMNITY CO., NEW ORLEANS, has opened a new surgical clinic at its headquarters, 826 Union Street. It will be operated in furtherance of the Louisiana Workmen's Compensation law which grants workmen a maximum compensation of \$250.00 for treatment in addition to such damages as his injury might entitle him to.

THE HOTEL DIEU, NEW ORLEANS, will soon have a new additional building to cost \$750,000. The six story addition will face on Tulane Avenue and will double the capacity of the institution, making it the second largest hospital in the city.

MISS KATE GORDON, one of the leading public spirited women of the Crescent City, recently, in an address before the Young Men's Business Club, pointed out the urgency of a tuberculosis hospital for New Orleans and scored the many critics who have been obstructing the project.

THE ENTIRE LIBRARY OF THE SHREVEPORT MEDICAL SOCIETY is to be donated to the public library of Shreveport. This was recently decided by the Society when the new officers were elected at its annual meeting. Those elected are: Dr. L. H. Pirkle, president; Dr. W. P. Butler, vice-president; Dr. C. C. Sims,

vice-president; Dr. R. T. Lucas, secretary, and Dr. L. C. Spencer, treasurer.

AT THE ANNUAL MEETING OF THE ORLEANS PARISH MEDICAL SOCIETY, held December 12, the following officers were elected for the 1923 term: Dr. H. W. Kostmayer, president; Drs. R. Lyons, Elizabeth Bass and F. J. Chalaron, vice-presidents; Dr. L. Ledoux, secretary; Dr. J. A. Lanford, treasurer; Dr. S. C. Jamison, librarian; Drs. W. Durel, L. L. Cazenavette and P. T. Thibout, additional members of board.

THE DEPARTMENT OF HEALTH, NEW ORLEANS, has opened a free clinic in the City Hall Annex. Dr. W. H. Reilley will be in charge of the venereal clinic, and Dr. J. C. Cole will be in charge of the tuberculosis clinic.

AMERICAN RADIUM INTERESTS have made arrangements with the Belgian government whereby radium, at a greatly reduced price, will be available for use in all hospitals. In exchange America will furnish Belgium with costly instruments required in connection with the use of radium in scientific research.

DR. RUDOLPH MATAS recently returned from abroad after attending the Thirty-first Congress of French Surgeons in Paris, October 2-7. He read, by invitation, a paper on "End results of operations for aneurisms and other lesions of blood vessels of the extremities." He and Sir George Makins, of London, opened the discussion on the reports by Prof. Leriche of Lyons and Moure of Paris. Dr. Matas and Dr. Albee, of New York City, were the only invited American guests at the Congress. Dr. Matas was elected one of the Honorary Presidents of the Congress.

DR. AMEDEE GRANGER was in Detroit, Mich., the week of December 3 to 10 attending the annual meeting of the Radiological Society of North America. His paper and his exhibit on "A new method for the positive identification of the sphenoid sinus and the ethmoid cells" created a great deal of interest.

THE ANNUAL MEETING OF THE RADIOLOGICAL SOCIETY OF NORTH AMERICA, held in Detroit, Mich., December 4, 5, 6, 7 and 8, was very well attended. A large number of highly interesting articles covering the entire field of X-ray diagnosis and therapy

were read, and the scientific and commercial exhibits were unusually instructive.

Honorary Degrees were conferred upon Dr. Francis H. Williams, of Boston, and Dr. Francis Carter Wood, of New York City, and Gold Medals were awarded to Dr. Maud Slye, of Chicago; Dr. Percy Brown, of Boston; Dr. Marie Curie, of Paris, and Dr. Gosta Forsell, of Stockholm, Sweden.

Dr. Russell D. Carman, of Rochester, Minn., was elected President; Dr. Rollin H. Stevens, of Detroit, Mich., vice-president elect; Dr. Manly J. Sandborn, of Appleton, Wis., secretary-treasurer. Dr. Robert H. Millwee was elected one of the vice-presidents.

Rochester, Minn., was selected as the next meeting place.

THERE WAS HELD IN JACKSON, MISS., October 30 to November 2, a Health Officers Institute. It was agreed that the Institute would be held in Louisiana in 1923.

TO THE EDITOR: I am endeavoring to make a complete study of the distribution of human actinomycosis in this country. The number of cases reported in the literature is suprisingly small, and I know that the disease is not so rare as is sometimes thought. I shall greatly appreciate hearing directly from any one who has had experience with this disease, and desire to know concerning case histories the following: age, sex, occupation, residence, state in which the disease was contracted, location of lesion, duration of symptoms, and any special points of interest connected with the treatment, outcome of the disease, or necropsy findings. A. H. Sandford, M. D., Mayo Clinic, Rochester, Minnesota.

IN THE 8TH CONGRESSIONAL DISTRICT. A called meeting of the Rapides Parish Medical Society was held at the Baptist Hospital Monday, November 20th for the purpose of reorganization of the Hospital Staff. The reorganized Staff takes form as an executive and a visiting body. The following four chiefs of service were elected by the society to serve for the year 1923:

Medicine, Dr. C. J. Gremillion; Surgery, Dr. R. O. Simmons; Gynecology and Obstetrics, Dr. J. L. Wilson; Specialties, Dr. E. R. Gandy.

Dr. Gandy was then elected chairman of the executive staff, and each department chief selected a suitable number of physicians to serve in his division.

Those doctors not serving on the executive body will constitute the visiting staff of the Hospital. All General Staff proceedings will be actively participated in by members of both bodies alike.

On Friday, December 15, Dr. Ralph P. Evans and Miss Barbara Neal were united in marriage by Rev. Dr. O. W. Bradley at the First Methodist Church in Alexandria. Dr. Fayette C. Ewing and Dr. George C. Antony acted as groomsmen.

During the war Dr. Evans was at first stationed at Camp Beauregard, then sent overseas. He subsequently located in Alexandria to resume civil practice. Miss Neal is a popular and highly accomplished member of one of Alexandria's most prominent families. The Journal heartily extends its best wishes to the happy couple.

Dr. Paul Foster, of Opelousas, motored to Alexandria, Shreveport and Grand Cane during the first week in November on business.

Dr. J. S. Branch, of McNary, was in Alexandria attending to business affairs, Monday, December 11.

Dr. Paul J. Gelpi was a most unexpected and welcome caller at this office recently. He attended the weekly luncheon of the Rotary Club as the personal guest of Dr. Clarence Pierson.

This office will appreciate appropriate news items sent in by any member in its jurisdiction not later than the 14th day of any month.

IN THE 6TH CONGRESSIONAL DISTRICT: At the last meeting of the East Baton Rouge Parish Medical Association the following officers were elected for the ensuing year: Dr. W. R. Eidson, president; Dr. R. B. Wallace, vice-president; Dr. T. C. Paulsen, secretary and treasurer. Delegates: Drs. E. O. Trahan; alternate, W. H. Pipes; W. R. Eidson; alternate, G. W. Sitman. Program Committee: Drs. Rufus Jackson, Lester Williams, Guy Riche.

AT THE CHARITY HOSPITAL, NEW ORLEANS. The Interne Corps of Charity Hospital is made up of forty-two graduates of medical schools. Of this number, two are women, the first women to spend internships here, and it is with a great deal of interest

that their work is being watched. They are proving successful and in every way are fulfilling the duties which the men internes perform.

The work of the hospital has grown so rapidly that we have had to use a great many more internes than formerly. Our accommodations have not kept pace with this growth, so that it has been found necessary to rent outside quarters for the overflow from the dormitory in the Ambulance House. One of the great needs of Charity Hospital is adequate interne quarters. The administrators hope to supply this need in the near future by erecting a home which will be equipped with a library and other essential features.

CHAIRMEN OF SECTIONS for the meeting of the Louisiana State Medical Society, April 10, 11, 12, 1923:

Section on Dermatology.....Dr. R. A. Oriol, New Orleans

Section on Medicine and Therapeutics.....Dr. A. E. Fossier,
New Orleans

Section on Bacteriology and Pathology.....Dr. J. J. Wymer,
New Orleans

Section on Eye, Ear, Nose and Throat....Dr. A. L. Whitmire,
New Orleans

Section on Urology.....Dr. M. H. Foster, Alexandria

Section on Nervous Diseases.....Dr. E. E. Evans, Jackson

Section on Public Health and Sanitation...Dr. Merriek Swords,
New Orleans

Section on General Surgery...Dr. T. H. Watkins, Lake Charles

Section on Radiology.....Dr. L. J. Williams, Baton Rouge

Section on Pediatrics.....Dr. M. S. Picard, Shreveport

Section on Gynecology and Obstetrics....Dr. H. E. Bernadas,
New Orleans

NEW ORLEANS POLYCLINIC, Graduate School of Medicine, Tulane, announces a very promising attendance for the current session, matriculation at this time being on a par with previous sessions. Physicians representing twenty states and one foreign country (China) have already enrolled.

MISS BETSEY LIBBEY, supervisor of the Philadelphia Society for Organizing Charity, gave a series of Round Table conferences during the past month on case work, which included in her discussions the following: Gathering data for a Social diag-

nosis; The Unmarried Mother; Behavior problems of difficult children; Neuro-Psychiatric case. The series was given under the auspices of the educational committee of the Social Workers' Conference of New Orleans. The conferences were largely attended by the Social Service workers of New Orleans and others professionally interested. The committee hopes from time to time to have other speakers of note address the members. Much credit is due Miss Mary Railey of the Childs Welfare, Mrs. Dickinson of the Social Service Department of Touro Infirmary, and Dr. Walter J. Otis of the Social Service Department of the Charity Hospital for the success of the meeting.

THE SOUTHERN SURGICAL ASSOCIATION met at Memphis, Tenn., December 12, 13 and 14. The following doctors from New Orleans attended this meeting: Dr. S. M. D. Clark, Dr. Isidore Cohn, Dr. H. B. Gessner, Dr. L. H. Landry, Dr. U. Maes. Dr. E. D. Martin, Dr. R. Matas, Dr. C. J. Miller and Dr. John Smyth.

THE FIFTH DISTRICT MEDICAL SOCIETY held a meeting in Monroe, December 11th, which was well attended. This was a very interesting meeting, showing great activities in this District. Dr. C. P. Cray was appointed president and Dr. C. H. Mosely, secretary, both of Monroe.

AT TULANE MEDICAL SCHOOL (Undergraduate). The ten honor pupils of the senior medical class of Tulane University will be presented with keys Sunday by the Stars and Bars Society of the university. Presentation will be made by Dr. Rudolph Matas at the annual meeting in Hutchinson Memorial building at 11 a. m. The public is invited.

The students elected to the society this year and who will receive the keys are:

Miss C. B. Barrett, M. S. LeDoux, T. P. Frizzell, M. D. Hargrove, Mrs. S. E. Huchaboy, K. A. Morris, Miss G. S. Ham, F. L. Loria, J. Sicomo, and C. O. Lorio. Dr. Isidore Cohn was elected from the faculty and Dr. Robert A. Lambert of the pathological department of Yale from the alumni.

REMOVAL: Dr. R. F. de Rouen, from Zenorin to Clarence, La.

DIED: Dr. Martin Luther Sexton, aged 64, died in New Orleans, December 1, 1922.

BOOK REVIEWS AND NOTICES.

All new publications sent to the JOURNAL will be appreciated and will invariably be promptly acknowledged under the heading of "Publications Received." While it will be the aim of the JOURNAL to review as many of the works accepted as possible, the editors will be guided by the space available and the merit of respective publications. The acceptance of a book implies no obligation to review.

Practical Chemical Analysis of the Blood, by Victor Caryl Myers, M.A., Ph.D. Illustrated. C. V. Mosby Co., St. Louis, 1921.

This manual of practical chemical analysis of the blood by Victor Myers is a very valuable and welcome addition to the literature upon this subject, which all branches of medicine are turning to for the furtherance of their unsolved problems, and any suggestions from a worker so well known as Victor Myers is considered an acquisition. The book is rich in methods, both of his own and of many other well known workers, leaving the choice largely to the laboratory technician himself. At the end of each chapter there is a carefully compiled list of references which makes the work extremely helpful in broadening one's scope of the subject discussed. Not the least in value is the very brief but very clear and well selected discussion of the various pathological conditions in which these methods of diagnosis and prognosis are applicable. This alone makes the book worth many times its price to the practitioner as well as to the pathological chemist.

M. P. B.

Physiology and Biochemistry in Modern Medicine, by J. J. R. Macleod, M.B., assisted by Roy G. Pearce, A. C. Redfield, N. B. Taylor and by others. Fourth edition. C. V. Mosby Co., St. Louis, 1922.

Macleod's Physiology and Biochemistry in Modern Medicine is too well known among physicians and students to need lengthy discussion. It is written with a clarity and charm which is often lacking in a text-book. The new fourth edition combines all of the changes and advances which have been made up to the present time in this ever-widening field of endeavor, with those of the previous editions. This edition commends itself especially because of its additional information concerning such vital subjects as those on the "output of the heart," "causes of the alterations of the acid-base equilibrium of the blood," "the normal electro-cardiogram" and "the movements and emptying of the stomach." Incorporations of recent works have been made, notably that upon intracardiac pressure and pancreatic diabetes, etc. Much credit is due to the publishers for the unusual attractiveness with which the book is presented.

M. P. B.

Nursing in Eye, Ear, Nose and Throat Diseases, by A. Edward Davis, A.M., M.D., and B. Douglas, M.D. Second revised edition. F. A. Davis Co., Philadelphia, 1920.

The authors, realizing that "A little knowledge is a dangerous thing," have thoroughly and interestingly outlined the nurse's duties before, during and after operations on the eye, ear, nose and throat. Several chapters are rightly devoted to remedies and their applications. Of great practical value is the space devoted to what should be done in emergencies. First aid in hemorrhages, eye burns, cocaine and atropine poisoning is fully considered. There is not a word, however, on foreign bodies in the eye. Why? So important a subject should be covered in the next edition. The detection of hemorrhage following nose and throat operations is given ample discussion. This is opportune, for the nurse can be responsible for the

unnecessary sacrifice of a life. This manual, with its many excellent features, must prove a reliable guide to the nurse. H. D.

A Treatise on Diseases of the Skin for Advanced Students and Practitioners, by Henry W. Stelwagon, M.D., Ph.D. Ninth edition, with the assistance of Henry Kennedy Gaskill. W. B. Saunders Co., Philadelphia and London, 1921.

The ninth edition of Stelwagon's Treatise on the Diseases of the Skin is probably one of the best publications of its kind in the English language in America. It is thoroughly comprehensive, well illustrated and very valuable from a bibliographic standpoint. It is much more valuable to the practitioner than to the student. H. E. M.

PUBLICATIONS RECEIVED.

C. V. Mosby Co., St. Louis, 1922: *Physical Exercises for Invalids and Convalescents*, by Edward H. Ochsner, B.S., M.D., F.A.C.S. *The Practice of Preventive Medicine*, by J. G. Fitzgerald, M.D., F.A.C.S., assisted by Peter Gillespie, M.Sc., C.E., M.E.I.C., and H. M. Lancaster, B.A.Sc.

J. B. Lippincott Company, Philadelphia and London: *I Believe in God and in Evolution*, by William W. Keen, M.D.

The Caxton Press, Cincinnati: *Pharmacopeial Drugs, Volume 1, Vegetable Drugs*, by John Uri Lloyd.

Medico-Legal Journal, New York, 1922: *The Female Impersonators*, by Ralph Werther-Jennie June ("Earl Line")

Washington Government Printing Office, Washington, D. C.: *U. S. Naval Bulletin*, Vol. 17, No. 5; *Public Health Reports*, Vol. 37, Nos. 44, 45, 46, 47, 48; *Public Health Reports*, Vol. 37, part 1, Nos. 1-6, January-June, 1922.

REPRINTS.

The Sequelae of Epidemic Encephalitis; Medical Teaching in Non-University Hospitals; The Irregular Practice of Medicine; Exogenous Causes of Multiple Sclerosis, by Lewellys F. Barker, M.D.; **Setting Forth the Purposes, Merits and Worth of the American Legion and Other Associations**, Special Address, by Geo. Soule, LL.D.

MORTUARY REPORT OF NEW ORLEANS.

Computed from the Monthly Report of the Board of Health of the City of New Orleans, for November, 1922.

CAUSE	White	Colored	Total
Typhoid Fever	3	1	4
Intermittent Fever (Malarial Cachexia)	1		1
Smallpox			
Measles			
Scarlet Fever			
Whooping Cough	1		1
Diphtheria and Croup	5	2	7
Influenza	3	1	4
Cholera Nostras			
Pyemia and Septicemia			
Tuberculosis	26	28	54
Cancer	33	8	41
Rheumatism and Gout			
Diabetes	6		6
Alcoholism			
Encephalitis and Meningitis	2		2
Locomotor Ataxia	4		4
Congestion, Hemorrhage and Softening of Brain	17	19	36
Paralysis	1	2	3
Convulsions of Infancy		1	1
Other Diseases of Infancy	17	9	26
Tetanus	1	3	4
Other Nervous Diseases	5		5
Heart Diseases	62	48	110
Bronchitis	4	2	6
Pneumonia and Broncho-Pneumonia	12	27	39
Other Respiratory Diseases	3	1	4
Ulcer of Stomach	3		3
Other Diseases of the Stomach	1	2	3
Diarrhea, Dysentery and Enteritis	8	6	14
Hernia, Intestinal Obstruction	4	2	6
Cirrhosis of Liver	5	1	6
Other Diseases of the Liver	4	2	6
Simple Peritonitis			
Appendicitis	5	1	6
Bright's Disease	19	19	38
Other Genito-Urinary Diseases	2		2
Puerperal Diseases	5	5	10
Senile Debility	1		1
Suicide	2	1	3
Injuries	18	23	41
All Other Causes	25	31	56
Total	308	245	553

Still-born children—White, 18; colored, 29; total, 47.

Population of City (estimated)—White, 295,000; colored, 110,000; total, 405,000.

Death rate per 1000 per annum for month—White, 12.53; colored, 26.73; total, 16.37. Non-residents excluded, 14.28.

METEOROLOGIC SUMMARY (U. S. Weather Bureau).

Mean atmospheric pressure 30.12
Mean temperature 66
Total precipitation 3.38 inches
Prevailing direction of wind—northeast.

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GENERAL INDEX.

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ORIGINAL ARTICLES.

(No paper published or to be published in any other medical journal will be accepted for this department. All papers must be in the hands of the Editors on the tenth day of the month preceding that in which they are expected to appear. Reprints may be had at reasonable rates if a WRITTEN order for the same accompany the paper.)

WHAT ARE VITAL STATISTICS?*

By J. GEO. DEMPSEY, M.D., State Registrar.

Vital Statistics are the expression of *vital facts* by figures. A modern method of keeping accounts of humanity.

It is as necessary, and as important, to each nation, as the keeping of accounts by bookkeepers for the yearly balance.

Aristotle, the great philosopher, used statistics for describing and comparing different states.

In the year of 1662, church records of marriages, births and deaths were recorded in the City of London by John Gravert. In 1666 when plague prevailed lists of deaths and statistics were distributed through London.

In succession followed:

Italy (1767) by Gioja.

Boston (1793) by Shattuck.

France (1821) by Bertillions.

Each country added some illustrious person, contributing to vital statistics.

*Read before the Louisiana State Medical Society Meeting, April 11-13, 1922.

In European countries, they study human life from the cradle to the grave. The term Demography is applied. It is regarded as a science of the human generation, growth, decay and death, as studied by statistical method.

The principal major subjects include *Geneology, Human Eugenics, Census, Registration of Vital Facts, Vital Statistics, Biometrics* and *Pathometrics*.

Edmund Halley, the great astronomer, the discoverer of the planet, believed in statistics, and compiled in 1693 a series of mortality tables, and calculated the expected age of life, thus laying the foundation for scientific life insurance.

Some of the greatest scientists of the world have been enthusiastic statisticians, and in some cases their greatness has been due to their statistical skill.

During the war statistics were of great importance. These reports are found in the annual report of the Surgeon General of the United States of America.

America is a little behind these other countries in statistics, but I am proud to say that we have some worthy sons of the United States that few can compare with.

Pearson, Quiblet, Laplace, Jarvis, Shattuck, Abbott, Wright and many others that I cannot just now recall.

At present the United States Bureau of Census is urging the necessary reforms in the registration of vital statistics.

The first general census of the United States was made in the year 1790.

The U. S. Registration Area for Deaths was established by the Bureau of Census and published records and reports of mortalities in the year of 1880.

The U. S. Bureau of the Census in 1907 established a model law requiring 90% of all births and deaths to remain in the registration area.

The following states will be found in the Registration Area for Births and Deaths:

Washington, California, District of Columbia, Connecticut, Indiana, Kansas, Kentucky, Maine, Maryland, Massachusetts, Michigan, Minnesota, New Hampshire, New York, North Carolina, South Carolina, Ohio, Oregon, Pennsylvania, Rhode Island, Utah, Vermont, Virginia, Wisconsin, Mississippi.

States for death only: Louisiana, Montana, Colorado, Florida, Illinois, Tennessee, Missouri and Nebraska.

Idaho and Wyoming are now being tested for births and deaths.

Montana, Colorado and Louisiana are now being tested for births.

	Per year.
Population of Virginia, approximately.....	2,306,361
Births received per year	72,000—31.2
Deaths received per year	27,600—11.9
Population of North Carolina, approximately.....	2,500,000
Births received per year	83,000—33.2
Deaths received per year	35,000—14.0
Population of Kentucky, approximately.....	2,445,000
Births received per year	
Deaths received per year	28,564—11.6
Doctors practicing	3,200
Midwives practicing	1,800
Population of Mississippi, approximately	1,789,618
Births received per year	43,000 to 44,000—24.6
Deaths received per year	30,000—11.2
Doctors practicing	1,700
Midwives practicing	4,000
Population of Louisiana, approximately	1,797,798
Births received per year (N. O. included).....	37,192—18.7
Deaths received per year (N. O. included).....	21,677—10.9
Doctors practicing 2,100—of these 1,780 are registered.	
Midwives practicing 2,409—of these 171 are registered.	

Louisiana is in the registration area for deaths.

I regret to say not for births, but through the earnest efforts and co-operation of the doctors, midwives and registrars, in all the parishes, we hope to have our beloved State, Louisiana, placed side by side with the other states that have gained this recognition.

Our efforts in securing complete certificates, no doubt, appeals to all practitioners. Our reward will be a place in the Registration Area of the Census Bureau at Washington, D. C.

The Department of Vital Statistics of the Louisiana State Board of Health was established July 12, 1914, which included all parishes outside of the City of New Orleans. Prior to that registration, some persons born in the country parishes were recorded in records of the City Board of Health of New Orleans. These records are still in their possession.

COMPLETE CERTIFICATES.

Certificates are only complete when fully made out and all questions answered.

TOTAL NUMBER OF BIRTHS REPORTED FOR THE YEAR 1920 (EXCLUSIVE OF NEW ORLEANS).

	White	Colored	Indian	Color		Doctor		Midwife	Still	Midwives
	M.	F.	M.	M.	F.	W.	C.	Attended or Other than Doctor	born	or Other than Doc- tors At- tending Births in Each Parish in 1919
Acadia	734	549	0	0	0	324	13	225	172	83
Allen	403	287	0	0	0	248	58	39	58	16
Ascension	485	289	0	0	0	128	11	161	185	39
Assumption	271	122	0	0	0	92	14	30	135	33
Avoyelles	718	471	0	0	0	242	23	229	224	76
Beauregard	514	391	0	0	0	356	106	35	17	35
Bienville	310	213	0	0	0	200	35	13	62	10
Bossier	189	85	0	0	0	79	19	6	84	21
Caddo	1,639	1,029	0	0	0	972	185	57	425	27
Calcasieu	718	498	0	1	0	430	35	68	184	70
Caldwell	127	108	0	0	0	91	0	17	19	43
Cameron	71	59	0	0	0	32	4	27	8	11
Catahoula	258	177	0	0	0	138	6	39	75	14
Claiborne	306	168	0	1	0	158	64	10	73	32
Concordia	71	21	0	0	0	10	8	11	42	43
DeSoto	555	226	0	0	0	221	40	5	289	31
E. Btn. Rouge...	1,069	577	0	0	0	489	52	88	440	55
E. Carroll	136	117	0	0	0	17	6	2	111	22
E. Feliciana	293	66	0	0	0	53	11	13	215	49
Evangeline	206	134	0	0	0	78	11	56	61	37
Franklin	343	238	0	0	0	223	18	15	87	15
Grant	215	160	0	0	0	150	9	10	46	8
Iberia	671	418	0	0	0	278	51	140	202	40
Iberville	689	326	0	0	0	195	16	131	347	64
Jackson	286	252	0	0	0	248	27	41	7	17
Jefferson	504	404	0	0	0	143	10	261	90	18
Jeff. Davis	377	295	0	0	0	240	16	55	66	13
Lafayette	810	490	0	0	0	298	31	192	289	64
Lafourche	1,084	886	3	1	0	254	18	632	175	77
La Salle	175	153	0	1	0	128	15	25	6	11

Lincoln	281	175	106	0	0	0	0	0	0	0	174	50	1	56	12	20
Livingston	330	288	42	0	0	0	0	0	0	0	195	13	93	29	6	23
Madison	62	26	36	0	0	0	0	0	0	0	23	0	3	36	3	14
Morehouse	293	104	189	0	0	0	0	0	0	0	82	19	22	170	7	48
Natchitoches	557	290	267	0	0	0	0	0	0	0	187	46	103	221	42	98
Orleans*	9,264	362	211	0	0	0	0	0	0	0	317	22	45	4,891	538	---
Ouachita	573	104	204	0	0	0	0	0	0	0	64	20	40	189	35	40
Plaquemines	308	174	287	0	0	0	0	0	0	0	96	33	78	184	26	40
Pointe Coupee	461	731	412	1	1	0	0	0	0	0	666	215	65	254	18	72
Rapides	1,145	107	73	0	0	0	0	0	0	0	99	17	8	197	60	51
Red River	180	111	148	0	0	0	0	0	0	0	77	13	34	135	12	46
Richland	259	387	70	0	0	0	0	0	0	0	378	50	9	20	18	17
Sabine	457	80	66	0	0	0	0	0	0	0	10	0	70	66	5	12
St. Bernard	146	150	136	0	0	0	0	0	0	0	92	6	58	130	10	25
St. Charles	286	81	79	0	0	0	0	0	0	0	63	6	18	73	4	25
St. Helena	160	256	335	0	0	0	0	0	0	0	132	12	124	323	33	51
St. James	591	171	220	0	0	0	0	0	0	0	118	13	53	207	19	32
St. John	391	446	620	0	1	0	0	0	0	1	252	53	194	567	50	141
St. Landry	1,068	184	122	0	0	0	0	0	0	0	86	17	98	105	6	74
St. Martin	306	435	447	0	2	0	0	0	0	0	243	25	192	422	60	29
St. Mary	884	257	136	0	0	0	0	0	0	0	106	38	151	98	18	41
St. Tammany	393	485	152	0	0	0	0	0	0	0	424	34	61	118	29	37
Tangipahoa	637	27	128	0	0	0	0	0	0	0	23	12	4	116	13	27
Tensas	155	396	194	2	2	0	0	0	0	0	61	6	335	188	23	56
Terrebonne	594	281	101	0	0	0	0	0	0	0	272	66	9	35	16	22
Union	382	626	103	0	0	0	0	0	0	0	305	36	321	67	28	57
Vermilion	729	328	89	0	0	0	0	0	0	0	300	71	28	18	16	9
Vernon	418	284	86	0	0	0	0	0	0	0	246	33	38	53	25	26
Washington	370	230	176	0	0	0	0	0	0	0	212	43	18	133	18	51
Webster	406	157	157	0	0	0	0	0	0	0	40	10	29	147	10	19
W. Btn. Rouge	226	69	9	0	0	0	0	0	0	0	106	3	20	6	7	19
W. Carroll	135	126	161	0	0	0	0	0	0	0	21	3	5	158	18	46
W. Feliciana	187	26	54	0	0	0	0	0	0	0	257	13	20	41	17	11
Winn	331	277	54	0	0	0	0	0	0	0	257	13	20	41	17	11
*Totals	27,928	17,185	10,722	6	8	3	4	4	4	4	12,242	1,910	4,943	8,812	1,399	2,409

*New Orleans excluded.

It is often wondered why other states have so little trouble in receiving reports.

Answer: Many of the states pay physicians and midwives for each certificate besides paying the registrar.

A registrar is empowered to arrest a physician or midwife for not reporting on time, in some of the states, but in Louisiana it is quite different.

We have already called the district attorney's attention to the violation, but received no consideration, as he failed to act.

If the doctors would only respond promptly, they would assist us greatly.

All we ask is—"approximately," "probably"—what caused condition—"about"—or "I do not know."

Any of these terms can be applied in proper sense, so we can close the matter.

The questions are not asked to question the ability or veracity of our medical men, but for them to pass finally on cause of death.

In these modern days of record keeping, family connections, investigations made for research reference by medical bodies, insurance companies, government officials, a complete classification of record is necessary, otherwise Louisiana will remain in the position of a doubtful State.

A WORD ABOUT THE DOCTORS.

Few doctors are able to practice obstetrics in parishes, owing to the small compensation paid them for their services. Therefore, most of these cases fall to the lot of the midwife, and oft times an illiterate woman, who is unable to fill out these certificates.

To overcome this, we as medical men must encourage proper training and instructions through Public Health, Red Cross or Child Welfare Nursing.

A FEW FACTS ABOUT STILL-BORN BABIES.

A child born dead is not registered as having been born. It is not included among either births or deaths—it is a stillbirth.

Should we consider all abortions or miscarriages stillbirths?

A child born alive and dies immediately is considered an infant. A birth and death certificate must be filed out to comply with the law.

Foetal deaths occurring before six or seven months of gestation are known as miscarriages, and are not reportable or recognized in ordinary statistical work. Those occurring later are stillbirths and must be reported.

Dr. F. V. Beitler, Chief of Bureau of Vital Statistics, Washington, D. C., has done some special work on abortions, all of which are included in stillbirths.

In conclusion, I want to thank all the doctors, registrars and midwives who are co-operating with us in this great work, also for your attention this evening.

THE DUTIES OF OFFICIALS RELATIVE TO PUBLIC HEALTH.*

By M. W. SWORDS, M.D., New Orleans.

Disregard or neglect on the part of officials throughout the State to assist in the enforcement of health laws prompts me to read this paper.

The health of a people is the fundamental foundation of success and happiness. Health is the greatest of all human assets and the most neglected.

In order to achieve success in health work, co-ordination of certain forces must be had, hence, health organizations through various agencies, as the State Board of Health, Parish and Municipal Boards have been legally organized and empowered to originate and enforce such health regulations deemed best suited to conserve public health.

The Legislature recently enacted a State law giving the Louisiana State Board of Health supervisory power over all boards throughout the State. Laws on the subject and the *modus operandi* of enforcement of same are ample. For this reason, it may appear to a casual observer that health problems could be easily disposed of and paramount benefits received through these agencies operating, but such is not all that it may seem.

The Louisiana State Board of Health has cause for disappointment because of the apparent lack of interest and appreciation of the legal authorities responsible for the enforcement of health laws.

I have known instances where the President of the State Board of Health has endeavored with earnestness and energy to bring

*Read before the Louisiana State Medical Society Meeting, April 11-13, 1922.

to the bar of justice some wanton violator of health regulations with no success. Time and again, he has endeavored to interest courts, judges, district attorneys, grand juries, etc., officially to aid in the enforcement of just plain, simple violations without success. Officials of State, from the greatest to the least, seem to consider the enactment of health laws, minus enforcement, the only result to be obtained. Officials appear to consider the violation of health laws natural consequences and when urged to give assistance answer with a knowing smile that suggests the health officer compares favorably with the scenario professor chasing butterflies.

The Board of Health has never attempted to compel the constituted authorities to enforce health laws for the reason, I believe, that the board thinks their failure to co-operate is because of misinformation or lack of information on the subject.

Our laws are ample on the subject. We have means at hand to ensure reasonable success. We can enforce health regulations, but we lack the one essential for perfect achievement and that is the proper realization of the constituted authorities of their obligation to the people relative to the enforcement of health laws.

A mind may be bent towards legal matters, may be quick to comprehend the ordinary needs of folks, but no mind can understand the significance of health problems without time and study.

The authorities should carefully select health experts to handle health problems and the opinion of the health authorities should be the most important determining factor when courts are called upon to enforce health regulations and health laws.

The object of this paper is to call the attention of the medical profession to the fact that the health organization of the State, to my mind, is powerless to achieve the success that could be had if that body did receive the hearty support and co-operation of the State law enforcing power.

SOME PHASES OF RURAL HEALTH.*

By O. DOWLING, M.D.

There are three phases of rural health which seem especially pertinent for our consideration. These are:

1. Prompt reporting of births, deaths and communicable diseases.

2. Safe water supply, proper disposal of human wastes and measures of protection against insect carriers of disease.

3. A more definite understanding of the functions of the State and local health boards and the responsibility of each.

Of what use are certified reports of births and deaths? Why are these records so continuously stressed? We appreciate why the layman fails to grasp the importance of complete, accurate statistics, but it is inexplicable that their significance is not understood by all physicians. Doubtless, the numerous items of the certificates are irritating to the overworked and hurried country doctor; what difference does it make *who* was the father or mother or *where* they were born, or the occupation, or exact date of birth, or what time the patient was seen last. But these items have been agreed upon by an international conference. They have grown out of the experience of the civilized nations of the world.

The questions which so frequently arise even in local health offices are the best proof of the need for these data. Perhaps no statistics admit of so many analyses; certainly no figures are so completely differentiated and published as the vital statistics of countries which have a highly developed health department. Many states in this country publish an annual report of many pages of differentiated tables of mortality, birth and morbidity rates. Where the population is white and colored, it is even more imperative that the fatalities in age groups and other particulars for different diseases be classified and tabulated.

The Louisiana records of deaths for 1921 which have been received to date show 347 delayed 1921 death certificates. These together with the delayed 1920 death certificates would make a volume of about 500. Many of these reports were returned to the registrar or the doctor three, four or five times to have missing items of information supplied. Many would be amusing if the necessity for exactness were not so serious. For example,

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one certificate reads the person died of "dropsy" after having been treated by *mail* for several years. You may be interested to know the gross death rate for 1920 in Louisiana is 12. per thousand population. With present 1921 figures—not yet complete—the rate is 11.03. The urban rate is higher than the rural rate.

With a death rate of 12, Louisiana need no longer be afraid or ashamed to invite inquiry as to health conditions. The typhoid rates while much lower than formerly are still too high. In 1921, the total rate was 18.33 per 100,000 the total number of deaths being 334. The differentiated rates for 1920 are Urban 13.62, Rural 17.14. The tuberculosis general rate for 1920 is 131.83; for 1921 it is 113.40 (the latter incomplete). No comment is needed as you are aware the State does not provide any facilities for the care of these patients.

If anything, birth certificates are more difficult than death records. The reason is clear; both casket dealer and undertaker share responsibility with the physician for the reporting of a death and this extends the number of persons from whom information is obtained. Many births unattended by a physician, through ignorance or neglect, are never reported to the registrar and never reach the State Bureau. It is easy to see why a birth certificate has an individual value, but these statistics are also imperative if a state wishes to know its health progress, whether it is a growing or declining state and the outlook for its future. Our birth records are now being checked by agents from Washington and we hope they will find them satisfactory.

The reporting of communicable diseases is even more irritating to the busy doctor than the filling out blanks of a death or birth and as our budget is inadequate to properly finance this particular branch of the work, the writing and forwarding of the cards seem time and energy thrown away. What good does it do to report? Physicians generally agree that in the city the need and value of reports is obvious, but many can not see that the same factors are present in the small town or rural neighborhood. The claim is made that the population is scattered in the country, that diseases seldom become epidemic and, most forcibly, that nothing is ever done about it any way so what is the use.

While it is true that the outstanding epidemics usually occur in cities or towns, it is equally true that the great endemic reservoirs of infection are the rural districts. A city by energetic means may entirely rid itself of a disease, the country round about will sooner or later supply a new infection. If we had only cities in the world, disease eradication and prevention would be a much simpler matter and many diseases would be rendered extinct. The city, of course, has the advantages of compact population, more money for the areas covered and, hence more efficient health organization, but the city today has a far greater advantage, one that should not exist. True, reported cases have many times been neglected, but organization for disease prevention is in a formative stage. The very best method to increase its efficiency is to show the need of it.

The statement is often made that contact is comparatively slight in country districts. No greater error was ever made. Contact is an exceedingly important factor in the rural spread of disease. To illustrate, recently a man contracted influenza away from home and returned with it to his house situated on a ridge running along the edge of a swamp. Five other homes were on this ridge at various distances covering altogether three or four miles. Shortly after his return home his wife developed influenza and then in progression, the disease invaded every home on the ridge attacking nearly all of the occupants. Tracing the contact was very simple, a kindly neighbor came over to cook while the man and his wife were both sick; she took sick and went home, others of her family contracted the disease, members from the other homes came over to see if they could help. Not so long ago there occurred in a community of three or four hundred inhabitants in Southern Louisiana an epidemic of 44 cases of typhoid fever. The community had had no typhoid for four years previously. The first case was imported, all the other cases were direct or indirect contact with the first and subsequent cases. Not one of these cases was ever reported by the attending physicians, the condition being brought to the attention of the State Board of Health by a layman. When apprised of conditions, the Board of Health promptly arrested the outbreak by anti-typhoid vaccination of the population in general, a procedure that would have been instituted very much sooner had these cases been reported.

In order to get more complete reports, the responsibility must be made plain. If a physician fails to report a case of communicable disease in his practice and other cases develop from the unreported case then the physician alone is to blame. When he reports this case he transfers the responsibility to the health officer. That the health officer may fail to do his duty is no excuse for the physician to fail to report.

To be more definite as to what use is made of these reports, on their receipt by the State Board of Health, the case is at once referred to the health officer concerned, whether city, town or parish, and he is urged to use every possible means to prevent further spread of infection. *In most instances the health officer takes such action.* That he does not always institute as widespread and complete measures as might be indicated is usually due to the fact that the community, whether parish, city or town, has *failed to provide the necessary funds.* This is the people's own fault and can not be charged against the health organization. Sometimes, we find an incompetent health officer. Generally, he retains his position only because his incompetence is not known to the public.

Only ignorance permits slipshod methods. When a disease is reported in an unusual number of cases at any point, the State Board of Health, according to the law, if necessary, may take direct charge. The idea that these reports are merely filed away is absolutely wrong.

The economic value of a system which can be relied upon for accurate data is well known to corporations having large investments, life insurance, real estate and manufacturing companies. Every few days, letters of inquiry are received asking health conditions, birth and death and morbidity rates. These are from persons who wish to come to Louisiana to live or do business. Our records may mean a new manufacturing plant, a colony, or a new citizen as the case may be.

The three chief problems of rural sanitation are the securing of a safe and adequate water supply, providing proper disposal of the body wastes, and securing protection against the insect carriers of disease, the fly and the *Anopheles* mosquito. While much has been done to improve conditions in these respects much yet remains to be accomplished. In many localities remedial measures are difficult and in some measure expensive; the main

reason that more is not done is the lack of knowledge on the part of the rural population regarding the role these factors play in the maintenance of health and the consequent lack of appreciation of the value of the right methods.

Many families continue to use water from shallow dug wells located where they receive seepage or surface washings contaminated by privies or barnyards when at a slight expense a new well could be driven, or a dug well constructed with tight curb and cover, and located remote from sources of contamination.

Hookworm is prevalent in many rural sections. Parents take it as a matter of course that babies and children shall suffer from diarrhea or "summer complaint" which often could more properly be called "fly complaint." In many places a simple pit privy, properly constructed, would answer all sanitary requirements and cost little more than the most insanitary surface closet.

Anopheline control whether by drainage to eradicate the mosquito or by screening, is somewhat expensive, but the cost is overbalanced by the gains due to increased productivity, savings of cost of medical service and medicines. The *Anopheles* is primarily a night-biting mosquito and where control of mosquito breeding is too expensive much good can be accomplished by the screening of dwellings, particularly of sleeping rooms. Reliance should not be placed on mosquito bars as a protective measure as these are not efficient.

The outstanding need in preventive medicine is education of the general public. The attending physician, on account of his direct personal contact at the moment when the minds of his clients are most receptive to such information, can accomplish untold good by simply-worded concise statements of the cause and sources of infection of the more common communicable diseases.

Act 79 of 1921 makes it mandatory that the Police Jury of the parish reorganize the parish board of health not later than the third regular meeting of the jury after this act became a law. The board must consist of three physicians, one school man and a fifth selected at the discretion of the jury. Should the Police Jury neglect to appoint or elect a Parish Board of Health within the sixty days after the passage of the act (which was November 18, 1921) a board shall be appointed by the State Health Officer (subject to the approval of the State Board) and when

approved the board so appointed shall have the legal authority of a board appointed by the Police Jury of the parish. The act provides that upon the expiration of the terms of office of present Municipal Boards, the Council shall appoint the Municipal Board. Three of these shall be physicians as in the Parish Board of Health and one a member of the municipal council. Failure to appoint within the given time, delegates power to the State Health Officer and the board as in the case of the parish. The term of service of the members are to correspond with that of the governing body which elects them.

The requirements as to personnel and the limitation in time as to appointments are the important changes. The effect has been to bring sharply to the consciousness of the Police Juries and city councils the fact that if they do not provide for a Board of Health there is authority vested in the State Board to do this. However, since the financing of the work depends upon the legislative bodies of the separate units it would be futile to name a board which would not meet with the approval of the Police Jury and the council, therefore, the selection as to personnel remains local after all. It makes little difference in whom the authority is vested; the main thing is that health service shall be standardized. And this will not obtain until sufficient funds are appropriated to make the salary of the health officer worth while with a guarantee of tenure of office dependent upon conscientious administration and progress in health work. To standardize schools and health we must place both, in organization and operation, above politics. For many years I have advocated this on every possible occasion and after almost twelve years of experience as State Health Officer I am more than ever convinced that it is impossible to reach a standard of excellence in these two lines of public service so long as political factionalism dominates or dictates policies or appointments.

The function of the State Board in relation to the local unit is largely advisory, but conditions may force the State Board to become for a time the director. In emergencies which the local board can not or will not handle, the State Board is empowered to act as it deems best. This, however, is limited to emergency work or to conditions which arise because of neglect or failure on the part of the local health officer or board. Often the State Board is urged to send immediately a specialist, to forward biological

supplies, to call upon the district attorney to act concerning some complaint—in a word, to do those things which come within the province of the local office unless the situation is beyond his control. In many instances it would be well to meet promptly these demands for promptness which in health work is all important. But the funds of the State Board are limited. The work planned is based largely on a process of selection of what seems most important. A program of work which would cover a number of years—the kind of program which would result in the greatest good—can not be undertaken because appropriations are made for only two years. The Legislature may give less or more—if the business can not count on a certain capital, then it can not undertake operations which must be budgeted in advance.

I wish to make this point plain because it is hard to refuse assistance when the necessity is urged by some health officer who, himself is without funds to meet the occasion. Free biologicals for the indigent should be provided, but the State Board has never had sufficient funds to guarantee this supply. Delay in use of anti-toxin, we have reason to believe, causes many deaths each year. If this were immediately available for the poor, the local health officer would be in a position to administer promptly which might not only prevent spread of the infection but save life.

The increased number of calls by wire or phone from rural districts is encouraging. It means that physicians more and more feel the responsibility for prompt use of these as protective agents and when the danger of delay in obtaining these products become a part of the community conscience funds will be appropriated for this purpose.

In the interest of a better understanding of imperative activities there should be an annual conference of all health officers. It has been tried but where expense is not allowed by the governing body of the city and parish, the health officer can not be expected to attend. The budget item for health work is throughout the State deplorably inadequate, and if permission is given to pay expenses to a meeting, many health officers hesitate to use even a small amount for this purpose realizing how great the needs are for the more definite things which they find to do.

The health officer today in common with many conscientious physicians does not receive a proportionate reward for services rendered. If he serves it is because he has an understanding as to the civic and social value of his work, a respect for the ethics of his profession and an unconscious pride in doing good for the sake of good. It is not to the credit of our people that intelligent, educated, scientifically trained men should be expected to give their services and their time without adequate financial return—sometimes without even appreciation. I do not know of any body of men who wield more influence than the physicians of a State and I am convinced if we would unite to further public health each in his own locality we could create a demand for better pay for the efficient health officer and for full time service.

TYPHOID FROM A PUBLIC HEALTH STANDPOINT.*

By JOHN CALLAN, M.D., New Orleans.

While typhoid fever has diminished considerably in continental United States since 1910, as a study of the statistics for the registration area will reveal, yet it appears frequently enough in this area to be regarded as a public health problem which no health officer of town, city, county or State can afford to minimize.

In cities supplied with pure water and properly constructed sewers, the marked decrease of typhoid fever has been a source of encouragement to public health workers to renewed efforts to ferret and combat other sources of the infection.

There is no problem in public health where so much is known about the cause and the transmission which gives more difficulty in tracing to its infecting source than typhoid fever. We know fully that the bacillus typhosus is the only cause. It is well known that the cases are caused by the fecal evacuation or the urinary secretion of a previous case, entering the mouth and subsequently the gastro-enteric tract of the victim. That careless contacts, such as inmates and visitors of the infected house, physicians and nurses frequently contract the disease, is also well known. It is equally true that careful people can nurse and care for cases without the slightest risk. That flies and other insects having access to the dejecta of a patient can and do infect foods

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of other people, many of whom fall victims to the disease, is well established.

It is common knowledge to the medical profession that quite a number of individuals after recovering evacuate for variable periods, some for life, the virulent bacilli of this disease. The statement has been made, there are others who, though never having been known to be sick with the disease, bacilli have been found in their stools. While having doubts about this, it is a source of comfort to believe if health officers had to deal with patients infected from such sources only the number of cases occurring would be negligible.

With these facts, as stated, the tracing of cases to their sources is yet difficult, because many foods furnish a pabulum to sustain the activity of the bacillus for a period sufficiently long for the infected material to be conveyed many miles from the point of its production. Handlers of food, other than those who produce it, if carriers, may and do infect this food by pollution from their hands. This is well understood if one keeps in mind the unfortunates, otherwise known as carriers, who constantly or intermittently eliminate virulent bacilli from their alimentary canal or with their urine. Milk furnishes a good culture media for the bacillus. Thus it is readily seen how a carrier in a dairy could spread disaster on a milk route.

Oyster beds can and have been infected where proper safeguards have not been thrown around them. Many states, noticeably New Jersey, New York and others have already realized this and have instituted the proper measures.

Fresh vegetables, especially those eaten raw, as celery, radishes, cresses, etc., have been a source of typhoid fever. Proper attention must be given to the production, handling and washing of such.

The typhoid fever reported in the City of New Orleans during the past three years is here repeated for your information:

Year	Cases		Total Cases
	Originating in City	Imported Cases	
1919	120	39	159
1920	164	23	187
1921	93	58	149

Cases have been divided into those originating in the city and those brought to the city actually sick with the disease, or living

in the city for a period less than twenty-one days. My remarks will relate to those originating in the city, the infection source of the others being outside the jurisdiction of the City Board of Health.

Cases originating in the city were widely spread; sporadic, endemic or residual cases, as epidemiologists prefer to call them. Residual cases are those that spring up from time to time in different parts of a community which is supplied with pure water and properly constructed sewers. It seems almost impossible to trace or connect these cases with other cases. These, no doubt, are infected by intermittent carriers.

It will probably be of interest to cite our experiences in two particular instances in dealing with typhoid fever in New Orleans. As most of you are familiar with the city, it is sufficient to say that the greater number of houses are abundantly supplied with pure water and properly connected with sewers. Still there are some groups of people in the corporate limits of the city who have the water supply to their houses but the sewers have not yet been laid by their homes.

From a house in one such place, Edgewood, within $3\frac{1}{2}$ miles of the city hall, a case of typhoid fever was reported on June 21, 1921. Realizing the possibility of a fly-borne outbreak developing from this case, at once the inspectors of the City Board of Health were instructed to sprinkle chlorinated lime in all the open privy vaults. Orders were given to repair all screens of these vaults which was promptly complied with. Re-inspections were made constantly until the cases which subsequently developed were dismissed from sanitary care. This was not done until the urine and feces of the patients were found free of the bacilli. Anti-typhoid vaccination of all who would submit, 248 in number, was hurriedly started. Concurrent disinfection was done in a perfunctory manner. Although the disease was confined to this house, five contact cases developed. This was a reflection, proving the failure of our concurrent disinfection. This failure determined the establishment of the Registered Trained Nurses in the Health Department of New Orleans.

On the 14th of December, 1921, it was announced to the board that there was only one active case of typhoid fever known to the health authorities at that time. It was a case which had

developed near the lower limits of the city and removed to the Charity Hospital.

On December 20th two cases were reported from a house in the upper part of the city, two days later two more cases from another house in the extreme upper part of the city. Cases followed in rapid succession until we ended the year with 9 active cases on the books. Cases were being reported in rapid succession in this area during the month of January, 1922. On February 6th the last case was reported. This was a contact case which developed in an infected house, the previous case being reported on January 5th.

It was quickly realized that there was an outbreak of typhoid fever which threatened serious proportions.

The financial conditions of these patients were such that all necessary equipment and assistance were provided, nearly all being supplied with trained nurses. Concurrent disinfection was at once explained to the nurses and occupants of the infected houses. Anti-typhoid vaccination of the contacts was urged. The vaccine was supplied by the City Board of Health. The physicians in attendance vaccinated the contacts. In some few instances the physicians of the board did the vaccination. Through the press the people of this section were advised to adhere strictly to cooked foods.

Wild rumors and street gossip promptly placed the cause to oysters. Oysters were traced from retailers to wholesalers and finally to the oyster beds without result. The oysters as the cause could be eliminated because the outbreak was limited to only a section of the city, while oysters were consumed by people living in every part of the city. Although it was thought timely to write the president of the State Board of Health the necessity of throwing some safeguard around those beds which are such a valuable industry to the State. Some people use oysters as a delicacy, while many use them as a food. If they ever become contaminated with the typhoid bacillus and cause an outbreak, serious sickness will result to many people which will also deal a severe blow to the oyster industry.

The water supply was carefully investigated. There had been no break down at any time in the filtration or chlorination of the water. The bacterial count had been continually low for periods too long for water to be considered as the cause. Even

water from taps in many of the houses was examined with the same negative results. Ice from retailers to manufacturers was traced with negative results. The scare was taken advantage of to have some suggestions for the better handling of ice instituted.

Milk was carefully investigated and was quickly eliminated. Various dairymen from widely scattered parts had supplied these homes. Many of these cases had for a long period used pasteurized milk and some used only condensed milk. The same factors eliminated the butchers and bakers.

Investigation of the vegetables was continued, even extending into the adjoining parish of Jefferson. There was revealed a condition that was an abomination to civilization, if not the actual cause of this outbreak. Vegetables were washed in wash holes connected with drains from the fields and in some instances privy vaults were over these drains in close proximity to these wash holes as close as four feet in some instances. Fecal matter, floating in these wash holes where these vegetables were washed, was seen by our inspectors. This state of affairs has been reported to the president of the State Board of Health. This particular place is immediately across the river opposite the section of the city in which the typhoid fever prevailed. Ferries constantly ply across the river at three points a mile apart in this section. Every morning wagons loaded with the produce of these truck farms cross on these ferries. Vegetables that are eaten raw, such as celery, lettuce, radishes and cresses from farms where human excrement have been used as a fertilizer have been recognized as causes of outbreaks. Is there any difference if the ground is fertilized with human excrement or that the vegetables are washed in solution of human filth? If so, certainly the greater factor of safety to the consumer lies with the fertilization rather than with the washing. The Epidemiological Aide of the State Board was requested last week to investigate these farmers to ascertain if a carrier or carriers worked in these places.

In the case of the Edgewood house where there was no sewerage, the health problem was solved on the rural sanitation basis. This section could easily have caused a fly-borne outbreak because of its open privy vaults. The contacts developing in this house were a discredit.

The outbreak in the upper part of the city was handled on the Chinese plan of adhering to cooked food. If one studies what is known of the Chinese and their habits of using human excrement for fertilizer, and this excrement is so valuable to them that it is peddled about in containers at the ends of their bamboo poles in the over populated agricultural districts, the wonder is why typhoid fever is so infrequent in China, for we know the Chinese are not immune to the disease. The answer is the Chinaman puts nothing into his belly until it is cooked. Travelers from foreign countries while sojourning in China are stricken often enough with typhoid to show us there is nothing in the soil of China or in the excrement of the Chinese to render the bacillus typhosus avirulent.

The contact case occurring in this outbreak is a splendid tribute to the work of the Registered Trained Nurse who managed this work for the City Board of Health. Many authorities admit from 6 to 65% in various places.

There are some general propositions to be considered in connection with typhoid from the public health viewpoint.

Every facility must be furnished the physician for the early diagnosis of this and every other disease. A properly equipped laboratory manned by a competent bacteriologist is a prerequisite, but physicians must make use of these facilities. Health officers receive these reports averagely after the patient is sick 18 to 20 days. All of you will admit this is a long time to make a diagnosis of the vast majority of typhoid fever cases and does not give the contacts a chance for earlier immunization. Any febrile condition of an indeterminate nature existing five days should be reported as suspicious of typhoid fever. Then instruction could be given the contacts and concurrent disinfection begun at once.

The more one studies the causes of communicable diseases, the more firmly he is convinced that man is man's worst enemy; that the nail brush is mightier than the tooth brush. The exceptions where the nail brush or tooth brush will not protect are generally known.

THE TREATMENT OF THYROTOXICOSIS.*

By THOMAS P. LLOYD, M.D.

This paper will deal exclusively with toxic goiter, especially in the young individual, in the early stages of this disease.

We believe that all cases of thyrotoxicosis are essentially medical in the beginning. There should be no competition between the surgeon and internist in the treatment of goiter. Certain cases are as distinctively surgical as others are medical. We must learn to differentiate between those belonging to each group, and to as nearly as possible standardize both classification and treatment, leaving to the surgeon:

1. All cases of enlarged thyroid for reduction for cosmetic purposes.
2. For relief from pressure.
3. Removal of malignant or benign tumors or cysts.
4. Cases of toxic goitre, complicated or not, with exophthalmos, when symptoms demand prompt action, ligation, lobectomy, etc.
5. Non-toxic adenomata.

This narrows the field of activity of the internist to the *toxic* type—*exophthalmic*, *hyperplastic*, *adenomata*—90% of which can be cured by methods other than surgical. This again adds to the surgical list about 10% of the toxic type.

CAUSES OF HYPERTHYROIDISM.

McCarrison's⁽¹⁾ classification of the causes of hyperthyroidism are simple, convenient and generally accepted, that is, *nutritional*, *toxic* and *psychic*. He claims that lack of vitamins leads to diminished thyroid secretion, and Mallanby has suggested treating Graves' disease by eliminating fat-soluble vitamins from the dietary. McGarrison conclusively proves, in his experiments on pigeons and tadpoles, that goitre can be produced at will, by diet. He concludes with the following remarks: "The result of the experiments indicate that there is such a thing as a fat-thyroid-iodine balance, and that this balance may be disturbed either by an intake of iodine insufficient for the needs of the body in the particular circumstances in which it finds itself, or by the presence in the digestive tract of an excess of free unsaturated oleic acid. Goitre may arise, therefore, either from an actual or relative deficiency of iodine. We thus have

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an example of a deficiency disease (goitre) due to an insufficient supply of the essential of the food (iodine) arising in consequence of, or favored in its development by, excess of another essential of the food."

It is generally conceded that general or local toxemia may cause goitre. The literature is full of authoritative evidence that oral and tonsillar infections are causative factors, as well as intestinal toxemia.

(Plummer) "That introduction of bacteria into the digestive tract is an important factor, if not the primary cause of endemic goitre, is fairly well established. As to how the organisms act in the host, there is no definite evidence. That the bacterial flora in the digestive tract may sufficiently interfere with the absorption of the small amount of iodine available in the diet is a possibility, particularly in areas in which this element is relatively small. The relation of the bacterial flora to the available iodine would explain the geographical distribution of goitre."

Phyctic: W. Langton Brown ⁽²⁾ says that happy people do not get Graves disease. The factor of shock was shown repeatedly during the air raids on London and after the San Francisco earthquake. The emotions find their expression through the sympathetic nervous system, and it is the sympathetic that enervates the thyroid gland. Cannon's experiments on cats definitely proved that stimulation of the cervical sympathetic would cause exophthalmic goitre.

Considering that the causes of goitre are *nutritional*, *toxic* and *psychic*, it is necessary to treat thyrotoxicosis with the idea that any one or all of these factors are influencing the case under consideration. Surgery, X-rays, and radium all act the same way, that is, by diminishing the thyroid secretion, and are only indicated in well established cases, where definite pathological changes in the thyroid gland have occurred.

Again quoting W. Langton Brown: "Once the vicious circle is started, it is hard to break, for the sympathetic stimulates the thyroid, and thyroid secretion lowers the threshold of sympathetic stimulation. Operation, X-rays or radium operate merely as factors in breaking this vicious circle by diminishing the amount of thyroid secretion and thus allowing the balance to be restored."

How are we going to treat these cases where little or no thyroid pathology is present, but altered physiology has become manifest by a symptom complex, more or less acute, or possibly with insidious onset? An early recognition of these cases will lessen the necessity for surgical treatment.

1. *If the cause be nutritional*, associated with intestinal toxemia, resulting in lessened iodine-bearing food assimilation, then the intestinal flora should be changed, iodine-bearing food given freely, using at the same time potassium iodide or syrup of the iodide of iron.

A. Loewy and H. Zondek, *Deutsch Med. Wehnschr.* 47:1387 Berlin, November 17, 1921⁽³⁾: "Iodine therapy serves to reduce this increased metabolism and catabolism so that the loss of weight is kept within narrow limits or is changed into a gain in weight. The dosage is very important; beginning with 3 drops three times daily, of a 5% potassium iodide solution, watching the body weight very closely. The dose is increased as long as the body weight keeps on increasing. The upper limit of tolerance is an individual variation and may be reached with 20 drops of potassium iodide solution in some cases." Quinine hydrobromide is said to have a sedative on the sympathetic, and is recommended by some observers.

2. *If the cause be toxic*, such as oral or tonsillar, these causes should be removed.

3. *If the cause be psychic*, the treatment should be adjusted accordingly. Psychotherapy skillfully used, with the patient placed in happy environment, removed from unhealthy mental hygienic conditions, will effect a cure.

Rest is a necessary adjunct and where possible should be insisted upon. Thyrotoxicosis has a tendency to spontaneous recovery, prolonged rest in bed will alone often bring about the desired result.

In the past few years our attention has been attracted more and more to the roentgenotherapy of the thyroid gland. Conflicting reports as to its efficacy are often seen, so with the idea in view of determining for ourselves the best course to pursue in certain cases of thyrotoxicosis, we selected 17 cases for X-ray therapy. Thirteen of these cases were of the early toxic type, with small but palpable and visible thyroid enlargement; one with decidedly enlarged gland of 10 years duration with marked

degree of exophthalmos, and one case of post-operative relapse. There were no borderline cases, all were frankly toxic goitres, presenting the usual classic syndrome. Seven of these cases are now clinically well, 6 are still under treatment and show marked improvement, and 3, out-of-town cases, have discontinued the treatment for unknown reasons.

Our roentgenologist, Dr. C. P. Rutledge, treated these patients, prescribing the dosage as he thought applicable to the individual case. We watched the progress of these patients with a great deal of interest, checking up their metabolism as occasion demanded. We can not now assert that all of these cases or any of them are permanently cured, because sufficient time has not elapsed, but we can say that not one of them has shown symptoms of recurrence. Then why is it not good practice to treat thyrotoxicosis with means other than surgical. We do not preach against surgery, but we do know that in such cases as above described the X-rays are wonderfully beneficial, and that in the hands of a competent administrator are safe and harmless.

At the Highland Clinic every case has the advantage of frequent consultations of surgeon, clinician and roentgenologist. We are all of one accord as to the ones surgical and medical. We are trying to standardize our methods of treatment and group our cases so that every one will secure the treatment best suited to his case.

Our special *thyroid chart* herewith attached, is modeled after the one used at the Massachusetts General Hospital.

HIGHLAND SANITARIUM SPECIAL THYROID SHEET

 HOSP. NO.
O. P. O. NO.
MED. LAB. NO.

NAME _____

AGE _____

ADDRESS _____

DATE DIAG. MADE _____

DIAGNOSIS _____

SURGEON _____

RADIOLOGIST _____

INTERNIST _____

		FIRST YEAR												SECOND YEAR														
DATE																												
PULSE RATE	150	BASAL METABOLISM (% VARIATION)	100																									BODY WEIGHT AS ENTER FIGURES EACH HORIZONTAL LINE BEING 1 LB. PLACE INITIAL WEIGHT OPPOSITE \pm 10% METABOLISM
	140		90																									
	130		80																									
	120		70																									
	110		60																									
	100		50																									
	90		40																									
	80		30																									
	70		20																									
	60		10																									
	50		0																									
TREATMENT																												
ACTIVITY																												

DIRECTIONS: METABOLISM, BLACK; PULSE, RED; WEIGHT, GREEN. PERPENDICULAR LINES DENOTE MONTHS. TREATMENT: 1—RAY TREATMENT. (1), (2) ETC.—OPERATIONS. ACTIVITY: 1—COMPLETE REST IN BED. 2—PARTIAL REST. 3—USUAL MODE OF LIFE.

DESCRIPTION OF CASE, (Date _____)

Duration of Goiter _____, of Toxic Symptoms _____

Degree of Hyperthyroidism judged clinically. Mild, Moderate, Severe.

Previous treatment.

Chief Symptoms. (Indicate intensity by 0, +, ++, or +++).

Nervousness,	Irritability,	Sweating,	Asthenia,	Diarrhoea,
Dyspnoea,	Palpitation,	Appetite,	Loss of weight,	Cta.
Other,				

Physical Signs.

Emaciation,	Objective Nervousness,	Exophthalmos,
Thyroid,		
Tremor,	Sweating,	Tonsils,
Heart,		
Mental State,		

General Statement of Progress, Type and Severity of Disease.

Illustrating Thyroid Chart used by Dr. Lloyd.

PERIODS IN HOSPITAL

ENTRY	DATE	DISCHARGED	DATE	SERVICE
REENTRY	"			
REENTRY	"			

SURGICAL OPERATIONS

1	DATE _____	2	_____	3	_____
	OPERATOR _____		_____		_____
	ANESTHETIC _____		_____		_____
	OPERATION _____		_____		_____
	RECOVERY _____		_____		_____

X-RAY TREATMENT

DATE	DOSE	AREA	DATE	DOSE	AREA
1			7		
2			8		
3			9		
4			10		
5			11		
6			12		

MEDICINAL TREATMENT (GIVE DATES)

COMPLICATIONS (GIVE DATES)

LARYNGOSCOPIC EXAM. (GIVE DATES)

BEFORE OPERATION

AFTER

PATHOLOGICAL REPORTS

SURGICAL PATH. REP. (DATE)

AUTOPSY (DATE)

No

FOLLOW-UP & END-RESULT DATA

DATE		DATE	

Illustrating Thyroid Chart used by Dr. Lloyd.

CASES PROBABLY CURED.

Case 1. Mrs. B. N., age 29.

History of goitre one year. Pulse rate 120.

Given three treatments, but owing to advanced pregnancy, treatments discontinued.

Patient seen several months since last treatment. Pulse rate 86. Cured of all subjective and objective symptoms.

Case 2. Mrs. C. A. M., age 24.

Goitre noticed 18 months before first treatment, which was given in April, 1920.

At time of treatment right lobe appeared to be about the size of a guinea egg, the left slightly smaller. Five treatments were given at monthly intervals. Patient then went away for summer vacation and did not return for observation for about five months, at which time no visible enlargement could be detected, her nervousness was entirely relieved, and pulse rate was 84. Patient was last seen about a month ago, and appears to still be in perfect health.

Case 3. Mrs. E. J., age 23.

Examined September, 1920, when there was a palpable enlargement about $2\frac{1}{2}$ inches by 1 inch, of right lobe. Pulse rate 100, with the usual nervous phenomena. First treatment given at this time and thereafter at monthly intervals, including a total of eight; last treatment April, 1921. At that time there was still a noticeable enlargement of the right lobe, but very much decrease in its size, all nervous symptoms had disappeared, pulse rate was 80. The following month, while in the East, this patient was examined by Dr. Crile, who pronounced her cured. She has been seen lately by author and appears entirely well.

Case 4. Miss R. C., age 29.

First seen November, 1920. Pulse rate 130. Patient extremely nervous with marked exophthalmos and very noticeable enlargement of both lobes of thyroid, the right slightly larger than the left. Patient was given ten X-ray treatments at monthly intervals, at the Highland Clinic, and three treatments in Colorado, same technique being adhered to. The last treatment was given in November, 1921. Examination at that time showed a complete disappearance of thyroid enlargement and all nervous symptoms abated. Pulse rate 80 and no exophthalmos. Patient had gained 35 pounds in weight and appeared normal in all respects. This patient has been seen within the past few days, and still appears to be in the very best of health.

Case 5. Mrs. C. A. S., age 20.

First seen March, 1920. Gave history of slight enlargement of thyroid of two years' duration. Was extremely nervous and tired very easily on exertion. Pulse rate 120, weight 107. X-ray treatment instituted immediately, and given at monthly intervals, until a total of six treatments had been given. At this time patient had gained 22 pounds in weight and pulse rate was 80. She left promising to return should any aggravating symptoms reappear. Patient has not been heard from since, and we consider her cured.

Case 6. Miss G. T., age 19.

This patient was first seen in February, 1921. She had a marked enlargement of thyroid gland with the usual nervous symptoms. Pulse rate 120, and she was losing weight rapidly. Soon after examination patient was operated. She seemed to be benefited temporarily, pulse went down, and nervous symptoms were relieved to some extent. In May, 1921, she returned with practically the same

nervous manifestations as seen before operation, pulse rate 120, and further enlargement of the gland. X-ray treatment was given at this time, and at monthly intervals, until four treatments had been given, the last one in August, 1921. At this time the thyroid appeared normal to palpation, patient had gained about 30 pounds in weight, and pulse rate was 82. All nervous manifestations had subsided. Patient was dismissed and instructed to return for monthly observation, which she has done, being seen about a month ago, when condition was same as reported in August, 1921.

Case 7. Mrs. E. L. G., age 16.

First seen November, 1920. Noticeable enlargement of thyroid, pulse rate 110, weight 107. Patient showed usual nervous manifestations, being extremely nervous during menstrual periods. First treatment was given at this time, and at monthly intervals, until nine treatments had been given. Last treatment July, 1921, at which time patient weighed 122 pounds, all nervous symptoms had disappeared, and pulse rate was 76. Patient has not been seen since, but her father, who is a physician, reported a few days ago that she is doing fine.

In three of these cases the treatment was augmented by six weeks rest in bed.

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SOME OBSERVATIONS ON THE SCHICK TEST AND THE TOXIN-ANTITOXIN IMMUNIZATION IN THE CONTROL OF DIPHTHERIA.*

By W. H. SEEMANN, M.D., New Orleans.

The progress in the control of diphtheria has not universally kept pace with the reduction in the mortality from the disease. The mortality rate, which, before 1890 (when antitoxin was introduced), had been 64 per 100,000, has now dropped to an average of 15.3 per 100,000, a reduction of over 75%. The case rate has not appreciably changed during these thirty years, still averaging around 200 cases per 100,000 population per annum.

While it has been computed, that there have been saved, owing to antitoxin, over one million lives, during the past third of a century, yet there have occurred, during the same time, 300,000 deaths from diphtheria, not to speak of the immense loss in money and time, and the great suffering entailed.

It is obvious that any procedure which promised an amelioration of the conditions mentioned, would meet with a grateful and hearty response on the part of the medical profession and

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the public, so when, in 1913, the test devised by Schick to determine the potential resistance of individuals to diphtheria toxin was published, a hopeful enthusiasm encouraged the belief that an end to the diphtheria problem was in sight. The vista was made especially bright, in view of the toxin-antitoxin immunization suggested by Von Behring, and first used on pledgets of cotton, intranasally, and later subcutaneously injected. The results of his later work were also published in 1913 and were so encouraging as to prompt other workers, including, especially, Park in this country, to carry on investigations along the same lines.

Today there is a widespread use being made in a more or less systematized fashion, of the Schick test and the T. A. mixture for immunization and I had hoped to collect sufficient statistics to be of some value in asking from the profession a concerted movement to promote the more general and sytematized use of this procedure. I am convinced that any effort along the T. A. line, unless made general, will fall short of expectations, and may fail entirely to relieve conditions.

Schick has announced that if an individual has in his blood as much as one-thirtieth of a unit of diphtheria antitoxin per c. c. he would be immune to the action of diphtheria toxin and hence would give a negative reaction. Von Behring claimed that as little as 1-100 unit per c. c. will protect against any serious results in uncomplicated cases. The value of the Schick test is to determine whether natural immunity to diphtheria is present in the persons tested.

The technic of the test is very simple and with a little orderly arrangement and the assistance of a nurse, or other intelligent help, it is no great task to test a hundred or more individuals in a day. It has been found that the toxin which is used in the test must be freshly diluted in order to be sure that it is potent and be an accurate basis of determination. The amount of toxin required for each test is 1-50 m. l. d. for a 250 gram guinea pig, and is so diluted in bulk with normal saline, that this dosage will be represented by 1 c. c. This amount is recommended by Schick, and while 2 c. c. have been used by Park and others in this country there is a tendency to return to the smaller dilution which seems to prevent false negative reactions in slightly deteriorated toxin.

Under aseptic precautions and by means of a tuberculin or some such close fitting accurate syringe, 2 c. c. of the dilution of toxin is injected into the skin and not under it. A raised white area or small wheal will result if the injection has been properly administered, and is absolutely necessary as an indication of a proper technic. The small amount of toxin must remain in the skin long enough to exert its irritant action, otherwise the test is worthless, and the findings may be misleading.

Schick discovered that in older children or adults a certain protein reaction occurred which had nothing to do with the toxin's specific toxicity, so to properly read the results of the test another injection should be made in a similar manner and with the same quantities of materials, at the same time, with the exception that in the one case the toxin has been heated to 75° C. for 10 minutes to destroy its specific toxicity.

It is usual and very good practice to choose the flexor surfaces of the two forearms as the locations for the tests. It is best to have two syringes for the different solutions but if only one is available, of course, the heated toxin dilution must be used first. A positive reaction will show only on the side in which has been injected the specific unheated toxin. It will appear in 24 to 48 hours as a small area, averaging 1½ cm. in diameter, characterized by redness and skin infiltration. This persists from 5 to 14 days, gradually fading and leaving a brown pigmentation, and some slight desquamation.

The control reaction in the other arm will serve to act as a guide to determine whether the reactions are due to specific toxin, to protein reactions or whether they are combined reactions.

The chief rules with regard to these tests, as with many others, is to make them carefully and uniformly. Only in this way can one check results.

Some six years ago I had the privilege of observing some of the first tests made on the children in the Willard Parker hospital in New York, by Dr. Park and his assistants, and brought back with me a considerable amount of test material. I secured the co-operation of Dr. H. P. Jones and together we performed the test on nearly one hundred children, in an orphan asylum, under the care of Dr. Jones. It is interesting to note that at that time we did not use the syringe method but used instead a small chisel like scarifier such as was used in the Von Pirquet

test for tuberculosis. This method of course was slow and cumbersome but our results were easily controlled and gave about the same rate of positive and negative findings as have been recently reported as the average.

These results tally with some more recent ones we have made in an asylum in New Orleans, in which in a group of approximately 75 children of ages from 2 to 19 years, we found 45.83% positive, 48.61% negative, and 5.55% doubtful.

In this group no negatives were found under 4 years; at 5 years, 13% were negative; at 6 years, 60% were negative; at 7 years, 66% negative; at 8 years and 9 years, the positives and negatives were equal, and above these ages the negatives increased. Above 16 years all were negative. Of course this is not usual. Park reports that he has found about 20% of adults to give a positive reaction. In a small group of medical students I have recently tested I found approximately one-fifth to give a positive result.

In the asylum group mentioned, it is interesting to note that one of the positive reactors who was given three full doses of the T. A. mixture subsequently developed a nasal condition, associated with fever and the presence of Klebs-Loeffler bacilli. Antitoxin was given and the case classed as diphtheria. This case developed about two months after the T. A. treatment, and it is worth calling attention to the fact that when immunizing it requires, in animals which have no trace of natural antitoxin, from 4 to 12 weeks before appreciable amounts develop and accumulate in the blood. This negatives the value of attempting active immunization in the face of an emergency, and calls attention to the fact that various human beings will react differently to stimuli introduced.

The case mentioned emphasizes the fact that the introduction of antitoxin even in large amounts, or the use of T. A. mixtures has no appreciable effect on the carrier possibilities of an individual. Park has found that many cases of negative reactors in the Willard Parker Hospital have become carriers of virulent diphtheria bacilli.

Attention might also be called to the fact that the mere existence of a tonsilitis in a negative reactor, with the presence of diphtheria bacilli, does not necessarily mean diphtheria. Eight

such cases occurred in Park's series during five years, and only two were given antitoxin. All recovered.

It must be remembered that antitoxin and T. A. mixture only tend to reduce mortality, and actual control of infection will depend yet on clinical and laboratory diagnosis of cases, and laboratory identification of apparently healthy carriers. Unless the use of T. A. immunization is general it will never accomplish its expected purpose; on the contrary it will take away the danger signals that would usually appear in the average individual who had become infected with virulent bacilli, and the usual danger signal, in the shape of the throat symptoms, would not be there to give warning.

A very excellent article by Cumming has emphasized some of these points. He emphasizes the fact that even if the 20,000,000 children of school age were immunized this would still leave 7000 deaths unaffected. It would require that 31,000,000 be immunized and this number be increased by 2,000,000 annually. His conclusions are that mass sanitary protection is best; that the control rests with the control of the carrier and the carrier routes.

DISCUSSION.

Dr. J. A. Lanford (New Orleans): I have very little to add to what Dr. Seemann has said further than to emphasize that point made that in the prevention of the spread of diphtheria, reliance should not be entirely placed in a negative Schick reaction, because an individual may be immune to diphtheria and yet harbor within his respiratory passages living diphtheria bacilli.

Therefore, in order that a person may not be a menace to the life and health of a community, and especially to those with whom he comes in contact, it is necessary to make cultures from the nose and throat of all individuals exposed to diphtheria infection.

This particularly is true in making surveys of institutions for the detection of carriers, for it is those who are carriers who may give a negative Schick test.

Dr. H. P. Jones (New Orleans): I have always been grateful to Dr. Seemann for giving me the material with which these tests were made in New Orleans. We used the intra-dermal method at that time, and if I recall, the children all had nose and throat cultures made within two or three days before the Schick test was applied. In that institution, while they had had an occasional case of diphtheria and scarlet fever, I do not recall a second case occurring from any infectious disease except measles and chicken pox. No case of scarlet fever and no case of diphtheria was traced to a case in that institution. The children range in age from three months to eighteen years, and as Dr. Seemann said, the results followed very closely what is to be expected in any community of children. I believe, through the foresight of Dr. Seemann, that these were probably the first series of Schick tests made in the South.

Dr. W. A. Dearman (Long Beach, Miss.): I think Dr. Seemann's paper is one of great importance, and should be given close study.

by physicians who have to do with diphtheria. I think that I was the first physician to make the Schick test on the Gulf Coast.

I knew a health officer who asserted that he could take an ordinary syringe and successfully and accurately administer the test; but it should be borne in mind that the successful application of this test requires many details which are mostly quantitative: a potent toxin, the proper dilution, technique and correct interpretation of the reactions, comprise the fundamentals underlying its administration. At this time biological houses are not supplying the heated toxin which is essential and should always be administered as a control. It is very important that the reactions be correctly interpreted, and "pseudo" as well as doubtful reactions occur quite frequently.

For the past five years I have depended upon the Schick test in all cases of diphtheria coming under my observation and have not given a prophylactic dose of antidiphtheric serum to any contacts who gave a negative reaction. I have no confidence in any measure that has been set forth to prevent the possibility of anaphylactic shock in patients who have had a previous dose. I know one physician who lost two in one day from anaphylactic shock; these patients had been given prophylactic injections many months prior to the fatal issue.

I would warn against dismissing a test as negative when a zone of redness persists after forty-eight hours though not any larger than the size of the original wheal at time of injection. An individual must have $1/30$ unit of antitoxin to every c.c. of blood in order to be immune to the disease.

We should bear in mind the clinical types of this disease, tonsillar, nasal, primary laryngeal and tracheo-bronchial as well as a few other clinical types. The mortality of 13 per cent could be materially lessened if the physician would recognize these cases early. No clinician can be positive from mere inspection in the differential diagnosis of the various anginas.

Dr. W. H. Seemann (closing): I do not want to go into the subject of anaphylaxis, but we must remember that immunity is relative. Conditions may occur in which the physical surroundings may reduce the natural or acquired immunity of individuals to such an extent that he may become susceptible to something to which he has previously been immune. One of the kings of France, Louis XIV, had an attack of smallpox in his youth and died from an attack of smallpox later on. If that can occur in variola, we may expect variations in other diseases. The Schick test must be controlled by subsequent Schick tests. The big point I want to bring out is the necessity of remembering that we cannot overthrow our old methods entirely for the new methods. I agree thoroughly with Dr. Dearman about the necessity of using accurate measurements and also about the advisability of being sure of your toxin.

THE RELATION OF GALL BLADDER DISEASE TO DIABETES.*

By ALLAN EUSTIS, M.D., New Orleans.

It is well known that after diabetes is established there is no cure and efforts are only palliative. McLeod and Banting in Toronto, with Insulin have a remedy which seems to control the disease.

Future progress in the study of the disease must be along lines of preventive medicine. Joslin and Paullin call attention to Obesity and Heredity as causes; Allen, excess of carbohydrates; H. Gideon Wells, Traumatic Diabetes with calcification. Very little has been written as to gall bladder disease being a factor in the causation of diabetes.

ANATOMY OF PANCREAS: ISLANDS OF LANGEHANS IN TAIL OF ORGAN.

Opie twelve years ago in "Diseases of Pancreas," mentions the relation of gall bladder to pancreas. Opie dissected duct of Wirsung in one hundred cases and found anatomy similar to accepted authors. Diverticulum of Vater: Its length, Testiel, 6-7 mm., Sappey, 7-8 mm. Opie states: "Occasionally the two ducts have no common channel, but open by separate orifices."

Proximity of common bile duct to head of Pancreas: "It descends alongside the head of the pancreas, occasionally embedded in its substance and comes in contact with duct of Wirsung, beside which it lies for a variable distance, before entering the wall of the intestine."

Little stress has been laid upon infection of gall bladder and common duct traveling to pancreas and causing inflammatory changes. I have been interested in alimentary glycosuria for past eleven years, and since 1911 I have records of 36 cases of alimentary glycosuria. Fifteen of these, or 41.6% have shown definite gall bladder disease during observation over a long period of time. Tenderness over gall bladder with dyspeptic symptoms may not be noticed at first examination. Six, or 16.6% have definite diabetes today, with hyperglycemia and other cardinal symptoms of the disease.

Treatment and diet aimed at sparing the liver has given better results than a low carbohydrate diet, and some have even become sugar free on a low protein diet.

*Read before the Orleans Parish Medical Society Meeting, October 23, 1922.

CASE REPORTS. DIABETES.

Case 1. Mrs. W. C., first came under observation in 1915, when she consulted me for cough due to dilatation of heart and aorta following a grippal infection. Gall bladder drained in 1911 by Dr. Miller for gall stones. At this time (1915) there was no sugar in her urine and examination of her abdomen was negative except for a distended and tympanitic stomach. In 1916 there was slight yellow color to solerae and tenderness over gall bladder. No sugar in urine. November 11, 1917, a trace of sugar was first noticed in her urine. December 10, 1919, there was 1.6% sugar in urine, and she was complaining of pruritis. There was weakness and loss of weight. December 19, 1919, there was 3.5% sugar, and her weight was 165. February 21, 1921, 0.8%, 5.4 gms. 675 c.c. There was severe gall bladder colic two or three times. March 23, 1921, 0.6% sugar, 3.69 gms., weight, 156¾. May 11, 1922, fasting blood, 222 mg.

1 hr. after taking 107 gms. glucose	363 mg.
2 hr. plus 107 gms. glucose.....	400 mg.
3 hr. plus 107 gms. glucose.....	370 mg.

In spite of sustained curve she has done better on a moderate low protein and moderate carbohydrate diet.

Case 2. Diabetes.

Dr. J. N. T., physician, 58, first seen November 25, 1918, with a severe myocarditis with dilatation of heart, pulsus alternans and dyspnoea. No sugar in urine. Chronic interstitial nephritis, albumin, weight 193. Gall stones in 1911, and gall bladder drained by Drs. Parham and Martin in 1911. Has been examined at frequent intervals. July 23, 1920, trace of sugar, liver enlarged and sensitive but no tenderness over gall bladder. On purgation and low protein diet, sugar promptly disappeared, weight 191¼.

December 9, 1920, 1.3% sugar in urine, marked tenderness over gall bladder, liver enormously enlarged, tenderness over region of pancreas, no jaundice. C. P. & R. low protein diet. Blood examined by Dr. Adams, not on fasting stomach, 256 mg. marked lipemia. December 15, 1920, after fasting, blood sugar, 168 mg. Lipemia less marked. At present, in about same condition.

Case 3. Chronic gall bladder and transient glycosuria.

P. R. P., 49 years old, first seen in 1912 and reported as a case of alimentary glycosuria in a previous paper. At that time had 7% of sugar in urine, no thirst or polyuria. Seen at irregular intervals since. Sugar found in urine by Dr. Ledbetter on insurance examination in 1914. First noticed soreness in abdomen, with belching, in 1917. Liver enlarged at this time, but no tenderness over gall bladder. Indigestion off and on, but no sugar in urine. In the summer of 1920, while traveling in the West, he had severe attack of vomiting with abdominal pains and chills and fever. September 21, 1920, mass in right iliac fossa. September 24, 1920, laparotomy by Dr. Allen. A ruptured appendix was removed. There was evidence of a chronic gall bladder and some little thickening of pancreas. Gall bladder not distended.

Case 4. Gall bladder disease. Operation.

Mrs. D. M., age 44, referred by Dr. E. M. Ellis for a glycosuria of two months' standing, which was intermittent and not associated with polydipsia, polyuria, or other cardinal symptoms of diabetes. Belching and indigestion. Physical examination negative except for marked tenderness over gall bladder. Inasmuch as her gastric symptoms predominated and the glycosuria was intermittent we decided to remove the gall bladder, which Dr. Ellis did under general anesthetic. At operation a chronic gall bladder was found with adhesions, which was removed. I understand from Dr. Ellis that since

operation she is able to partake of more carbohydrate food than formerly, but ingestion of sugar will cause glycosuria. It will be interesting to note the outcome of the case.

Case 5. Gall bladder disease, glycosuria.

A. T. C., student, age 23, referred by Dr. Spec Jones for glycosuria, polydipsia and polyuria at times, bad taste in mouth, headaches and vertigo. Tenderness over gall bladder with local rigidity of abdominal muscles in this region. Urine reduced Fehling's solution, but no action on polarized light.

Fasting blood sugar	90 mg.
One hour after taking 105 gms. glucose.....	85 mg.
Two hours after taking 105 gms. glucose.....	95 mg.
Three hours after taking 105 gms. glucose.....	89 mg.

My associate, Dr. Giles, in his report, says: "I feel that this patient just at present, must be classed as a case of renal glycosuria." On low protein diet after purgation, the urine did not reduce Fehling's solution, with a total excretion of only 1700 cc. in 24 hours.

CONCLUSIONS.

1. Transient glycosuria may be associated with a diseased gall bladder.
2. The glycosuria may exist before symptoms of gall bladder disease present themselves.
3. Such cases may progress to definite diabetes.
4. Treatment directed toward the diseased gall bladder may temporarily relieve the glycosuria.
5. In one case such treatment has relieved the glycosuria over a period of five years.
6. More systematic examinations of patients with glycosuria should be made, with the object of determining what percentage of glycosuria and true diabetes are associated with gall bladder disease.

DISCUSSION.

Dr. Daniel N. Silverman (New Orleans): The observations made by Dr. Eustis in his series of cases is of great interest to me. For the past two years nearly Prof. Denis and I have attempted to study the relationship between the pancreas and the infections existing in the biliary tract by means of analyses of the external secretion or enzymatic activity of the duodenal contents. Opie speaks of having found one case of glycosuria in thirty-five cases of chronic pancreatitis. In our series of eighty analyses there are about thirty cases with involvement of the gall bladder and liver. Without exception we have failed to demonstrate the presence of diabetes or of glycosuria in a single instance. There were many cases of chronic pancreatitis with the accompanying copious and fatty stools showing diminutions in the enzyme quantity. However, our failure to detect some of the transient glycosurias may have been due to less frequent examinations of the urine than those made by Dr. Eustis.

The association of abnormal pancreatic digestion with diabetes is

only occasional. According to Mosenthal, it is a rare incidence to find large and fatty stools even in very severe diabetics.

Dr. I. I. Lemann: I am sorry I did not have the pleasure of hearing Dr. Eustis' paper; I missed it and do not know just all of the points he brought out. However, he told me the other day of the contents of his paper.

This is an unusual experience in the observation of one man. We generally find things we are looking for and often we accumulate a lot of cases of one kind that seem to be unusual. It is hard to explain why one man sees a lot of cases another man does not. Gall stones, especially with glycosuria, are to be expected, and it is surprising that we have not seen more of it. I look upon Dr. Eustis' experience as that to be expected.

I do not know what interpretation Dr. Eustis has placed on the relation of gall bladder disease to glycosuria. It is apparent it can be explained in two ways. Gall bladder disease, with stones, occurring with blocking of duct will result with disease of pancreas. On the other hand, Naunyn believed that there was such a thing as true liver diabetes. The French school would have us believe that bile radicle disease is associated with gall duct and gall bladder disease. Observers after have not been able to confirm the idea of liver diabetes. In my own experience, the association of gall bladder disease with diabetes has been most uncommon. I have not had occasion to look over my own records but, from rough recollection, I recall only two cases where the association of gross lesions was suggested.

One was a man of about 50 years who had been brought here. Undoubtedly he had cirrhosis of liver, and there developed glycosuria. He was very decidedly jaundiced.

The other presented a very interesting history of long-continued indigestion with sudden collapse, suggesting perforated duodenal ulcer. He was an Englishman, in the East Indian service. The attack occurred in India. After a week or ten days he was somewhat better. He persuaded the authorities to put him on ship, and he finally got home. He developed a mass in epigastrium and from that developed fistula, from which was discharged a substance which irritated the skin. This mass was afterwards identified as a pancreatic cyst.

Later he developed phenomena of diabetes. He lost weight, experienced great hunger and thirst. When he related this phenomena to a friend he was persuaded to have his urine examined. He had a case of diabetes mellitus, apparently associated with a gross lesion of the pancreas.

Dr. D. Urban Maes: It seems to me Dr. Eustis has opened up a subject which should be discussed at length.

A good many years ago, when we began observing biliary disease this condition then was termed gall stone disease. The classical work from the German literature, especially Langbuch, who made presence of sugar in urine a diagnostic sign of gall stone disease. Twenty per cent of the cases had it. To those who have grown up with biliary disease we are no longer speaking of gall stone but gall bladder disease, reserving the former term for such cases as show stone at operation.

I think Dr. Eustis' paper is interesting, however I must agree with Dr. Lemann.

I regret very much that stress has been laid upon the anatomy. I do not believe that we are justified in believing that damming of bile or the mechanical obstruction of stones, has anything to do with the presence of sugar in the urine. This has been worked out experimentally by a great many, mostly by those at the Rochester

clinic, Deaver, Archbald and others. A common opening of the common bile and pancreatic ducts occurred in less than thirty per cent of the cases. In those cases where there was damming back of bile a local reaction with necrosis may occur but was not a causative factor in diabetes.

Observations of Archibald, Judd and Deaver have all demonstrated the intimate connection of lymphatics, gall bladder, bile duct region and the pancreas.

If there is pancreatic disease superimposed on gall bladder disease it must be of lymphatic origin. This is a reason for the plea some of the surgeons to make for removal of the gall bladder, that is, on account of the connection of the lymphatics of the bile passages and pancreas. If we leave in the gall bladder we may be inviting diabetes, whereas, if the gall bladder is removed the risk of subsequent pancreatitis is certainly minimized.

Dr. Allan Eustis (closing): I appreciate your liberal discussion. I have a point I want to call to your attention. Dr. Giles mentioned jaundice as evidence of gall bladder disease. In the majority of cases of gall bladder disease (presented) there is no history of jaundice. These cases were presented with that in view.

My experience with pancreatitis has been different from that of Dr. Silverman's. Every case of pancreatitis I have had has shown history of glycosuria. As an example, there was a doctor from Illinois treating himself (?) for diabetes. He had chronic pancreatitis. When I saw him he had no glycosuria at all. He had had sugar before. The only way we will take care of the matter is by proper examination.

I believe I see more alimentary or transient cases than any one in town. Every time I see a case the urine is examined.

This applies also to the gall bladder. I first believed in Naunyn's group. I believed there was something in true hepatic gall bladder disease. I might say that one of these cases did not show tenderness over the gall bladder. Dr. Lemann has undoubtedly overlooked many cases of gall bladder disease in his diabetics, as one of my cases had passed through his hands. His symptoms were essentially dyspeptic.

I want to set myself straight on the mechanics. I did not claim that blocking would cause glycosuria. I laid stress on the fact that infection from the common duct can travel through and make pancreatitis.

Dr. Maes: Gall bladder disease with infection could exist with no symptoms. I might say that the X-ray helps in arriving at a diagnosis of gall bladder disease.

Dr. Allan Eustis: I have one other point to make. I was not laying stress on gall bladder disease with diabetes, but of glycosuria.

Of thirty-six cases of transient glycosuria and gall bladder disease, six cases developed diabetes under my care.

New Orleans Medical and Surgical Journal

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EDITORIALS.

THE STATE SOCIETY.

At New Orleans, on April 10, 11 and 12, will take place the next annual meeting of the Louisiana State Medical Society. Elsewhere in the Journal will be found a list of committees. The prospects for a banner meeting are unusually good. The scientific and economic value as well as the joy of "rubbing elbows" with the other fellow make their own appeal to the individual. Therefore give in to the impulse and come to New Orleans. Incidentally, instruct your delegates as to your wishes in regard to YOUR Journal.

The present editorial staff feel that they are after a fashion temporarily "filling a gap" in getting out the Journal as best they can under the existing circumstances and until such time as adequate provision can be made by the House of Delegates for a stable, permanent organization and equipment. Upon the decision of the House of Delegates will depend the future of the Journal. Shall it be mediocre or a greater, bigger journal, truly representative of the State Society? How shall your delegate vote? *If you have an opinion on the subject, speak through your delegate!*

MEDICINAL WHISKEY.

There are perhaps no two other commodities so readily subject to substitution as are drugs and alcoholic beverages. In the hands of the unscrupulous the possibilities for charlatanism are enormous. As regards whiskey the better class of drug stores have already anticipated the law and have dispensed from the beginning only whiskey bottled in bond. This, however, has not been by any means the universal practice. In the future physicians prescribing whiskey can do so with greater assurance that their patients will not receive spurious or detrimental substitutes. This protection will result from a recent decision by the Commissioner of Internal Revenue. According to this ruling, bottled in bond whiskey for medicinal purposes will soon entirely replace bulk whiskey.

ABUSE OF FREE MEDICINE.

Like Banquo's ghost, discussions on hospital abuse "will not down." Just recently, Dr. H. W. Kostmayer, in his presidential address before the Orleans Parish Medical Society, took this subject for his text and in the course of his remarks pledged himself to get behind a movement to thresh out the matter. If conditions are actually such as many of our medical confreres picture them to us, then surely the time has arrived when concerted action should be taken to stem the tide.

Our profession has ever displayed a most lethargic attitude towards this evil. Just why this should be, it is hard to fathom.

The time has arrived to speak plainly. It behooves us now to protect ourselves from any form of fraud and we should not permit the undeserving to share the same privileges for gratuitous medical service that we so cheerfully tender the deserving poor.

Repeatedly it has been stated by staff members who attend the out-patient department of Charity Hospital that property owners present themselves for treatment along with indigents and that many of them drive up to the clinic in their private automobiles. Surely such flagrant abuse of charity deserves our condemnation in no uncertain terms. Efforts should be made to abate this state of affairs. Reform can come only from within. We need not look to the lay public for a remedy. The Lord helps those who help themselves.

THE LOUISIANA STATE MEDICAL SOCIETY

Will Meet in

NEW ORLEANS ON APRIL 10, 11 AND 12

SOCIETY PROCEEDINGS.

**PROCEEDINGS
OF THE
HOTEL DIEU STAFF.****Monthly Meeting for January, 1923.****The President, Dr. Homer Dupuy, in the Chair.****FRACTURE OF FEMUR.**

DR. A. C. KING reported a case of intracapsular fracture of the femur. The patient sustained a fracture of the left femoral neck. Immediate X-ray showed this to be an intracapsular fracture near the great trochanter with considerable upward displacement of the shaft, producing a shortening of one and a half inches. A Hodgen splint was applied for 10 days. The long extension method was considered as were also a more direct treatment by fixation of the fracture by nail, screw or bone graft.

DR. E. D. MARTIN suggested using ordinary iron screws inserted in such manner as to give absolute, permanent fixation. Dr. Martin had used this method with good results, though the case was not a particularly favorable one since the fracture was of several weeks duration.

DR. KING used the X-Ray plate as a measure and three-inch screws were selected as fitting the case, judging by the measure of the opposite femoral neck. The screws were demonstrated in the film as being slender and ordinary iron screws used by carpenters. They were not plated, but were clean and bright. Dr. King said that screws did not rust in bone as in the open air or in water. They turned black but did not rust.

The film was the guide as to the direction in which the screws should travel. An incision $4\frac{1}{2}$ or 5 inches long was made directly over the trochanter going directly down to bone. As soon as the bone was reached one index finger was passed over the great trochanter between the muscular tendons and the seat of fracture found. As the fracture was intracapsular this procedure could do no harm. The assistant holding the leg was now instructed to make traction downward until both limbs were equal in length. While in this position a hole was drilled just below the trochanter through the hard bone and a screw inserted and driven in as hard as possible with the screwdriver, making sure that the

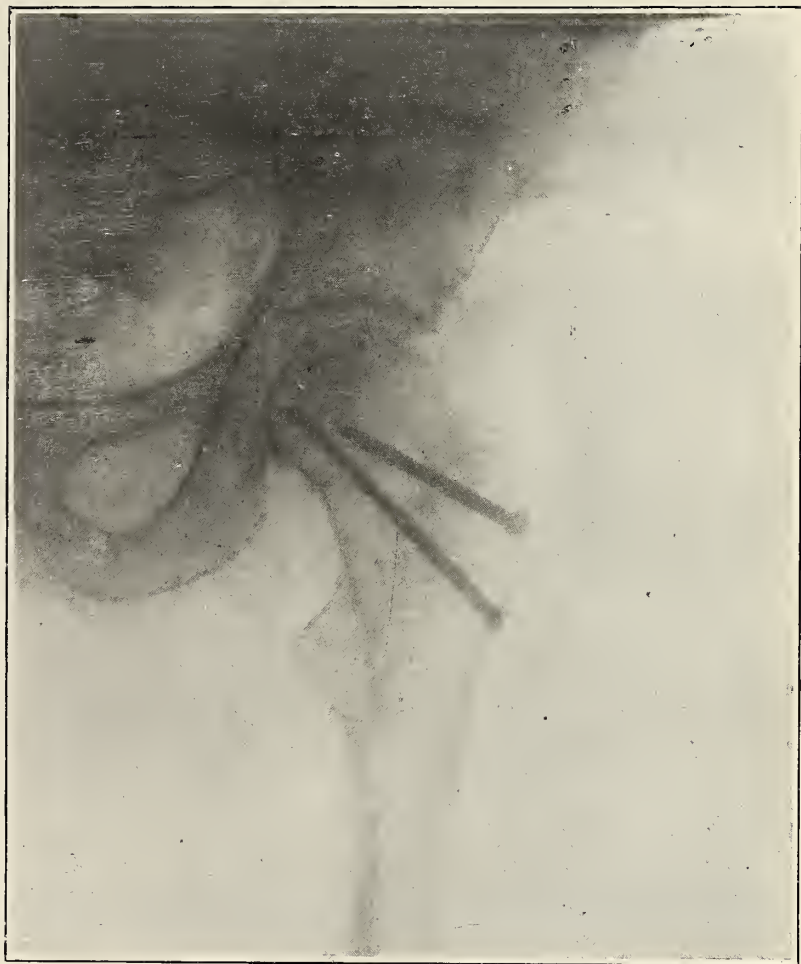
head must jamb up to bone. It was not possible to force a screw too tightly in bone. The tighter the better, as the job was permanent. A second drill hole was now made a little lower and at such angle as to leave sufficient space between the screws as well as to penetrate the bony head. An error was made here in failing to do just this thing, the point instead passing through the outer surface of the head, giving an insufficient hold. This was shown in a film taken immediately after completing the operation. No correction was made as the wound had been sutured, dressings applied and the patient partially recovered.

The limb was now placed in a Thomas splint and swung clear of the bed by means of a Lyle frame. No extension was required. The patient was quite comfortable after getting herself adjusted to the bed and apparatus and complained only of having to lie on her back. Union of the wound was primary.

The location of the lower screw not being satisfactory, it was removed and another was inserted at a little different angle so that the point would enter the bony head, giving a firmer grip. This was done 30 days after the first operation under local anaesthetic, the greatest difficulty being to locate the head and back the screw out. The final result was shown in plate three. There was absolutely no shortening. The patient was now walking with only a stick for support, and while a little stiff would soon limber up.

Dr. King had two more cases in the Charity Hospital. One elderly patient infected her own wound and died of sepsis. Physically this was an unsatisfactory case. The other case was a colored woman of 62, in good condition, who was now just ready to return home. The X-ray showed splendid position of both screws; no infection occurred in the wound and from the time of operation this patient had been wonderfully comfortable. Dr. King's experience was limited to these four cases. The operation was not intended to apply to aged patients nor impacted fractures in such patients, but certainly looked entirely suitable in young and middle age subjects. If possible, X-ray should be made immediately after placing both screws, and any errors corrected before the patient left the table.

DR. DANNA stated that he had had good results with Buck's Extension. He believed that the best results followed the use of Hodgen's splint. This splint would give as good extension



Illustrating Dr. King's Case.



Illustrating Dr. King's Case.

with the knee in position of flexion and the femur in position of rest as you could possibly get with any apparatus. He thought Dr. King's case was a perfect result as far as shortening was concerned as shown by X-ray.

He recalled a patient from Charity Hospital in a Jones' splint. She seemed to be very comfortable for transportation. Dr. Danna put her in a Hodgen's splint and for the last two weeks of treatment he put on Buck's extension, obtaining a perfect result. He could recall four or five such cases walking around perfectly well.

The Hodgen's splint had one great advantage in that the patient was able to move around comfortably in bed. Well applied and well watched he thought this splint gave the best results.

DR. NIX felt that a mortality of twenty-five per cent was as low as one could expect in handling such cases. From an inch to an inch and a half shortening of the limb was to be expected. He cited Whitman's results with traction, wherein the simple pulling on the capsule of the joint approximated broken fragments.

DR. SALATICH remarked that, by means of a small drill, the introduction of nails and screws would be facilitated.

DR. CASSEGRAIN stated that in the work he had done in association with Dr. Gessner the drill was used to make holes, but instead of steel screws, bone pegs were used successfully.

DR. JEROME LANDRY desired to know of Dr. King if any trouble presented itself in removal of such screws.

DR. KING answered that there was little trouble in removing them. The difficulty was in finding them as they soon became covered over with scar.

DR. WALET felt that this procedure could not be considered applicable to very old patients. Here simple reduction was done as best it could, then application of plaster cast, and careful attention otherwise, was best.

DR. KING stated that the method was not intended for the very old patient for in the aged, Buck's extension was more suitable. He stated that he considered the Thomas splint superior to the

Hodgen's. In northern climates plaster casts might be tolerated but here, in the summer time, they were not welcomed by patients.

BREAST CANCER IN THE MALE.

DR. J. T. NIX reported a case of breast cancer in a man.

Mr. J. J., a white male, aged 64 years, married, a native of New Orleans and an electrician by trade.

He consulted Dr. Nix November 22, 1922, and complained of a sore on the right breast and lumps in the right armpit but especially of pains in the right armpit while using his arm.

Briefly the facts of the case were as follows:

One year ago he had boils in the right knee and he thought that the lumps in the armpits were boils. He did not know the connection between the breast and the enlarged glands in the axilla. It was only the pain which he suffered while using the arm that made him seek medical advice. This pain was severe enough to interfere a great deal with his rest at night for three months. The glands were first noticed about six months ago. There was no history of trauma. Past history did not reveal anything of importance. He was married and had six healthy children. His wife had one miscarriage.

Family history: There was no malignancy in the family.

Physical examination: Emaciated tall white male. Weight 132½ pounds; 145 pounds his usual weight. The skin of the back of his hands showed many spots of keratosis senilis. The eye, ear, nose and throat examinations were negative. The thyroid was negative. The teeth were artificial. The heart was negative. Blood pressure S. 165, D. 90. The lungs had murmuring, sonorous rales scattered through the back. The examination of the abdomen was negative. On the right breast was a foul and ulcerated area about the size of a silver dollar, which had destroyed the nipple. The surrounding skin was infiltrated as was also the great pectoral muscle.

The right axilla was filled with glands, some of which were ulcerated.

The epitrochlears were enlarged.

LABORATORY EXAMINATIONS.

Fluoroscopy of chest: There were numerous areas of infiltration, some linear, others fuzzy. The breast and aorta were normal. The Wasserman reaction was negative. Total white count 8,500 per C. MM. Lymphocytes: Small 27, large 8. Neutrophils 64, eosinophiles 1, hemoglobin 80. Urine: no albumin, sugar acetone nor indican. Phenol-sulphone-phthalein test: 50 C. C. 60%. Vital capacity test, 2.

Dr. Nix thought that perhaps every one present had seen one or two cases.

DaCosta saw three cases in ten years.

Warfield (Bull. Johns Hopkins Hospital, October, 1901) collected 32 cases from the literature and added 5 others.

Palenno (Semaire Medicale, May 20, 1908) collected 750 cases of tumor of the male breast and 649 of them were cancerous.

Sistrunk (collected papers of the Mayo Clinic, 1921), in a study of 246 patients with cancer of breast, did not have one case in a male.

J. J. Buchanan (Penn. Medical Journal, July, 1918), in a study of end results in 204 amputations done over three years, had two males in the series, both of whom died.

Matas and John M. T. Finney (Keen's Surgery) say that slightly over 1% of cancers of breasts occur in the male.

Delafield and Prudden, in their Text-book of Pathology, say that carcinoma of male breast forms about 2% of all mammary carcinomata.

Dr. Nix felt that the important question was the *treatment* of cancer of the breast.

Dr. Nix said that in early cases the treatment was simple and radical methods would be curative. In more advanced cases surgery in conjunction with radium and deep X-ray therapy should be used. When there were glands in the axilla the chances of cure were slight and when there were Metastasis in the lungs or other organs, the chances to cure were nil.

In the hopeless, far advanced cases, the palliative aid of radium and the X-rays was a great boon.

It was quite possible that in the future when radium and X-rays were better known the treatment would be principally non-surgical. Until that time came it was generally conceded that the treatment of malignancy today should be, 1st, preliminary radiation; 2d, surgery, when possible, excising disease tissue, and 3d, post surgical radiation.

DR. SALATICH stated he had operated but one male breast, but for a benign tumor, with uneventful result.

DR. JEROME LANDRY emphasized the fact that up to puberty, the anatomy of the male breast is practically the same as the female. All lumps in male breasts should be treated the same as similar conditions in females. One per cent of these tumors were met with in males. Two per cent. of these tumors were carcinoma. He had no success with deep therapy. In a patient in which it had been tried death followed shortly after its use.

DR. MAURICE GELPI could not recall a single case of carcinoma of the male breast, but he had seen two of sarcoma. He felt that we had some encouragement in deep therapy results so far. He had seen a recurrence in a case three years after radical operation. In this instance he excised the scar with the cautery and then applied a hundred milligrams of radium; he then excised a larger area and re-applied the radium, with but little success. He remarked that he was ready to give up. As a last

resort deep therapy was instituted six months ago and at the present time, all recurrence seemed apparently arrested.

DR. PERRET was optimistic over the treatment of these cases with X-ray and radium. His experience covered three cases, two operated, of which one died. An early carcinoma of the breast had but one treatment with radium, then discontinued treatment. Simpson claimed three out of five cures with X-ray and radium.

DR. FORTIER stated that in dealing with a growth as deadly as carcinoma no one must pin faith on any one agent alone. Severe, inoperable cases unquestionably should receive radium, X-ray and deep therapy. Radium should first be applied. This "localizes" the condition and blocks lymphatics. The glands were then treated with deep therapy or X-ray, whatever was available. Then removal of encysted mass would probably cure some of the cases.

DR. H. E. NELSON stated the first case of cancer in the male breast he observed in 1910, while an interne in the Charity Hospital.

The patient, a colored man, gave a history of wearing a loose jumper, in the left pocket of which he carried a heavy watch. As he was a plantation overseer and rode horseback frequently, this caused a moving up and down of the watch against the left breast thereby causing friction. In due time there appeared in this breast a lump. When he presented himself for treatment the breast lesion was well advanced and unmistakably carcinoma. The patient refused operation and left the hospital, the case no doubt going to a fatal termination.

The next case was that of a white male that came under Dr. Nelson's observation in 1917. Dr. Nelson examined him at this time for life insurance. He gave a history of having had a breast amputation for cancer in 1914. The operation was a radical one; the pectoral muscles were well cleared out on that side. The pathological report at that time was that of cancer. This patient was living today and presented no evidence of recurrence.

DR. NIX, in closing, stated that his case appeared hopeless to him. After deep therapy the mass went down in a striking manner.

**PROCEEDINGS
OF THE
TOURO INFIRMARY STAFF.**

**Monthly Meeting for January, 1923.
The President, Dr. M. Feingold, in the Chair.**

LUETIC BLINDNESS.

Dr. Weil presented a case illustrating the close relationship of ophthalmology with otolaryngology.

This patient first came to the clinic several months ago. The record was misplaced and he recited part of the history from memory. When he came to the clinic he complained of severe headache,—nothing else. Examination at that time showed the nose to be negative to all ordinary examination, but in the naso-pharynx there was evidence of some new growth in the right roof of the naso-pharynx. This was a tumor mass, rather diffuse, about the size of a large hazel nut with ulcerated surfaces, the whole appearance suggesting lues. The patient gave a definite history of leutic infection several months before, but the Wassermann was negative. On account of the constant headaches, an X-ray was made of the sinuses of the nose and the report came back that there was a distinct opacity of the sphenoid and ethmoid sinuses on both sides but somewhat more marked on the left. In the absence of any definite evidence of suppuration, the possibility of some form of hyperplastic sphenothmoiditis was considered, but on account of the definite leutic history, and the appearance of the tumor in the naso-pharynx, it was decided to put him temporarily on mixed treatment.

Shortly after mixed treatment was begun his wife telephoned that suddenly during the night, without any warning whatever, the patient had completely lost sight in the left eye. Even light perception was gone. He was immediately admitted to the hospital. So much had been said on the subject of hyperplastic sphenoiditis and its effect on the optic nerve that it seemed at once that here was one of those cases, not at all uncommon, of blindness due to hyperplastic sphenothmoiditis with resulting pressure on the optic nerve. The inclination was naturally to do an exenteration of these sinuses without delay for the earlier such an operation is done the better the prognosis. The longer the delay the worse the outlook. The distinct leutic history,

however, and the appearance in the naso-pharynx still suggested the possibility of leus as a cause. Before anything definite was done, however, in a surgical way, it was deemed best to have the opinion of the ophthalmologist and neurologist, and Drs. Feingold and Holbrook examined the case.

The neurologist found evidence to suggest some intracranial tumor and the ophthalmologist found evidence of some growth in the apex of the orbit. This man became blind shortly after the beginning of mixed treatment, and it was just possible that this blindness might have been some form of Herxheimer reaction. This, however, did not seem probable because he had had only mixed treatment in moderate quantities and no salvarsan, which is much more apt to give the Herxheimer reaction than the mercury and iodides.

Dr. Feingold suggested, in spite of Dr. Weil's strong inclination to do immediate speno-ethmoid exenteration, that on mercury rubs and iodide should be tried first. The patient was kept at rest in bed and treatment begun in the hospital.

He was kept in the hospital two or three weeks, showing much improvement, and was then sent home and treatment continued at home. His sight had improved very remarkably. He had no vision whatever at first and barely light perception, if any. Now the vision had improved so that he has 5/12 plus vision. Dr. Weil's inclination when he showed the marked improvements on mercury and iodides, was to institute more energetic treatment with salvarsan. Dr. Feingold suggested, however, that mixed treatment be continued.

In addition to the loss of sight, he had severe headache on the left side, the typical lower half headache as described by Sluder in these cases of hyperplastic ethmoiditis. The X-ray picture would likewise bear out the diagnosis of sphenoidal involvement. It was interesting to note, however, that the headaches had practically subsided since the anti-syphilitic treatment had been carried out.

From the findings the most plausible explanation was that he had a syphilitic condition of the speno-ethmoidal sinuses extending down into the naso-pharynx. This theory was borne out by the fact that he had improved so consistently under anti-specific treatment.

DR. HOLBROOK examined Dr. Weil's patient a few minutes after he was admitted to the hospital. For some time past he had been complaining of very severe headaches. Within twenty-four or thirty-six hours of coming into the hospital he had lost his sight in his left eye. Going into the history, he found that the patient admitted a venereal infection which was very suspicious of syphilis.

Examination showed that the patient was just able to perceive light when the electric torch was held close to his affected eye. After determining that there were no cooked discs present, spinal puncture was done. The fluid was under considerable pressure, was clear and examination did not reveal any marked changes. The cells were normal in number, the globulin was not increased, the Wassermann was negative and the colloidal gold showed very slight reduction.

He thought that the improvement that had taken place in this patient's sight had been very marked, but in spite of the fact that this improvement had apparently taken place under the influence of anti-syphilitic treatment, he believed that one would have to delay judgment for several months in order to determine whether syphilis was really at the bottom of this man's trouble. One often saw improvement for a time under mixed treatment and then the condition grew worse. This was especially observed in tumors of the brain. It would be very interesting to watch Dr. Weil's case and we trusted it would continue to improve and that the tumor in his pharynx would disappear.

DR. FEINGOLD examined Dr. Weil's patient on his clinic days, Tuesday, Thursday and Saturday. On the first day, some slight light perception was recorded as well as sluggish pupillary reaction; the next examination showed no light perception, no reaction of pupil, either direct or indirect, very slight exophthalmos of the affected eye—two millimeters at most; in addition, there was a weakness of the external rectus. In spite of all this, the optic nerve was perfectly normal. Though his previous leutic history and pharynx condition was at first not known, the conclusion was that there was something interfering with the ciliary nerves because the pupil did not react, and at the same time with the abducens. This "something," it was thought, must have been pushing the eyeball forward, producing the exophthalmos and, because the disc was absolutely normal, this "something"

had to be at least one centimeter behind the eyeball because the vessels enter the optic nerve about 12 mm. behind the eyeball. Therefore, all the disturbance had to be at a point near the apex of the orbit. The fundus and field of the other eye were entirely negative; that excluded an affection of the chiasm or behind it.

DR. FEINGOLD thought the further developments interesting because for about a week after the treatment was started the patient could see absolutely nothing; but after that, suddenly light perception returned, then hand movements were perceived and he could recognize at a distance of one foot the characters which should be seen in 200 feet. From then on, his vision improved by leaps and bounds from day to day.

When examined six days ago, he had 5/12 vision. Three days ago was first noticed a peculiar halting, hesitating in his reading though his vision was still 5/12. Yesterday that halting, hesitating was a good deal more marked and the optic nerve, which had appeared normal all along, appeared somewhat pale for the first time. Whether it was the antileptic treatment that relieved disturbance and thereby re-established conduction and better vision which subsequently became worse because of secondary atrophy, could not be said. The case was not finished by any means.

DR. H. N. BLUM found this man in his clinic one day and Dr. Howell had made a notation of a previous visit at which time vision was found to be 5/16. Not knowing he was in Dr. Feingold's service, we examined him and found what he considered to be a slight hyperemic condition of the optic nerve of one eye as compared to the appearance of the other optic nerve. In conjunction with a report from the radiologist, that there was an opacity in the sphenoid and ethmoid cells, he immediately thought of a retrobulbar neuritis due to sinus infection, and walked to the ear, nose and throat clinic to consult Dr. Weil about it. He was informed that he was Dr. Feingold's patient and was told the latter's diagnosis. There was then no exophthalmos and the diagnosis of retrobulbar neuritis was the most probable diagnosis. Dr. Blum said that in borderline cases it was difficult to decide whether or not a neuritis was present, and several examinations were necessary to determine definitely if inflammation was there.

DR. LYNCH asked if the sixth nerve paralysis was still present. It might possibly be due to one of the mixed tumors which grow

in the sphenoidal fissure and present themselves in the nasal pharynx posterior to the eustachian tube. It would be possible for such a tumor to make pressure on the sixth nerve in its progress through the orifice and in this way produce the paralysis.

These mixed tumors were of a semi-malignant nature and grew rather slowly but progressively and could be easily mistaken for gumma or the glands of Hodgkin's disease. It would seem that the mass on the opposite side of the vault of the pharynx would be syphilitic in character since it was reduced by the use of the syphilitic treatment. He was inclined to believe that the dose given was rather small and would suggest the addition of iodide of potash.

DR. FEINGOLD said that the exophthalmos and weakness of the external rectus were gone.

DR. KEARNEY asked if sections from the tumor could be obtained. If it was malignant he doubted if removal of a tissue specimen would be particularly harmful to the patient and might shed some light on the diagnosis.

During the past year he had under observation a patient with carcinoma which originated apparently in the nasopharynx in the left fossa of Rosenmuller. In this case, however, while the man had some auditory disturbance due to pressure on the eustachian tube and some respiratory disturbance due to obstruction of the nose, he had no visual disturbance.

DR. FEINGOLD said that this man's psyche has greatly changed. He was so hesitating, so diffident. He has become more normal.

DR. WEIL said that Dr. Lynch's suggestion that this might be a mixed tumor coming down from the sphenoid into the nasopharynx was worth considering, but the fact that the tumor in the naso-pharynx was on the left side whereas the blindness was on the right side, would speak against this theory.

As regards the abducens paralysis, it must be remembered that the sphenoid and posterior ethmoid cells lie sometimes in relation to the motor oculi nerve, the trochlear, the ophthalmic division of the fifth nerve, the maxillary division of the fifth nerve, and sometimes even the mandibular or third division of the fifth nerve, and the abducens or sixth nerve and that disease in this region by its effect on the abducens nerve could very easily account for the abducens paralysis described by Dr. Feingold. He was inclined to think that this was a leucic infection of the sphenoid and possibly of the ethmoid. It was true that the tumor

under treatment should diminish to a greater extent and on account of this he was anxious to have the patient treated with a few doses of salvarsan. Because if salvarsan was given this man and the tumor persisted, that tumor was not specific.

DR. FEINGOLD said that if the condition were a gumma, he did not see how mercury and iodide of potash would have less effect than salvarsan. Salvarsan, with its fleeting stay in the system, could not affect a gumma so easily as did mercury and iodides. Salvarsan could easily affect secondary lues but not tertiary. The lack of vascularization of a gumma would make it less influenced by salvarsan, while the greatly vascularized so-called secondary lesions ought to be affected easily by salvarsan.

DR. WEIL thought that in the ordinary conditions there was a miraculous improvement. He had seen them clear up tremendously with the use of salvarsan.

DR. LANFORD suggested that primary and secondary syphilitic lesions were purely local and were largely located on epithelial structures and not deeply in the tissues, so that they could be reached by medication through the circulation, but when gummata were considered and other tertiary lesions, the histological pictures showed areas of necrosis caused by shutting off the blood supply to the parts. Then something which was more slow and diffusible and lasting had to be given. That was why gummata improved under mixed treatment rather than under salvarsan.

DR. WEIL asked what inference was drawn from the fact that he was beginning to show an optic atrophy.

DR. FEINGOLD answered that some of the vision might be lost, but that he would retain some.

DR. HIRSCH had a case that brought out the fact that salvarsan had very little effect on some gummata. This was a case of gumma of the tongue that had been given twelve salvarsans in Hot Springs and when the condition did not improve, a diagnosis of malignancy of the tongue was made. When the case came to Dr. Hirsch it appeared to be a specific condition owing to the irregular distribution of the lesions. He had Dr. Lanford see this case in consultation and he confirmed the opinion. With mixed treatment and inunctions of 40% calomel ointment to the tongue, it was remarkable how quickly this condition improved.

**PROCEEDINGS
OF THE
T. E. SCHUMPERT MEMORIAL STAFF.
Monthly Meeting for January, 1923.
The President, Dr. J. C. Willis, Sr., in the Chair.**

ASCITES.

DR. J. E. KNIGHTON reported a case of acute abdominal ascites with rapid re-accumulation of fluid due to a mitral stenosis and resulting decompensation.

History: White female, age 45. Family and past history negative. Excellent health except for some shortness of breath until three weeks ago, when without warning, her mouth filled with bright red blood; she spat up about one pint of blood within an hour. One week later she had similar hemorrhage; repeated again another week. She was put to bed following the first hemorrhage. On being admitted to the hospital about two gallons of fluid were removed from the abdominal cavity.

Physical examination: Heart moderately enlarged but more to the right; musical presystolic murmur with thrill heard over whole of the right; musical presystolic murmur with thrill heard over whole of precordium. Venous pulsation on the right side of neck. Soft systolic and tender; withdrawal of about five gallons of fluid in two weeks' time with rapid re-accumulation.

DR. W. S. KERLIN called attention to the fact that the heart lesions and rapid re-accumulation were the most common courses of abdominal ascites.

DRS. R. M. PENICK AND J. C. WILLIS, JR., reported a case of fibrous union of tibia and fibula of 1½ years' duration, cured finally by a sliding bone graft, 6 inches in length, after wiring with kangaroo tendon had failed.

FIBROUS UNION.

DR. L. C. SPENCER stated that the question of non-union of the tibia was a very important one and that the most common cause for non-union was syphilis, though there was a negative Wassermann in this case. That non-union was only presumptive evidence and that negative Wasserman was not sufficient. He further stated that to perfect immobilization was conducive to non-union and that slight motion was concerned in the proper nutrition of bone.

DR. J. C. WILLIS, JR., stated that in his opinion there were only two conditions where Lane plates were indicated, namely, following compound fractures with much displacement, in which

it was reasonably certain that infection had or would take place. Secondly, during an open operation, where it was found impossible to approximate and keep in position the ends of the fractured bones.

DR. PENICK stated that he had obtained excellent results with Lane splints, but that autogenous grafts were better.

HYSTERO-EPILEPSY.

DR. J. D. YOUNG reported a case of hystero-epilepsy or conversion neurosis.

A young white female, age 19, had been having convulsions for the past five months. Physical examination was negative. Neurological: Areas of anaesthesia over body not conforming to segmental distribution. Conjunctival, corneal and pharyngeal reflexes absent. Deep reflexes of both extremities exaggerated. No Babinski appenbern or Gordon. Abdominal reflex present. Narrowing of visual field.

Mental status: Stream of thought retarded. Speech jerky and rapid. Hallucination and delusions during convulsions, calling out "Let me kill him." "There he goes." "Oh, don't let him get me." Amnesia of about 12 hours' duration after convulsions.

History: Convulsions began after trial by court of young man who shot her father. Patient was implicated in trial. After trial family blamed her as chief cause of shooting affray.

Upon talking matters over with patient she at first denied any love affair with the young man who did the shooting. After hearing her talk and rave in the convulsions Dr. Young felt positive she was not honest in the denial. With association tests and analysis of one dream in which the young man and snakes played a prominent part, she broke down and admitted the fact.

In conscious mind she knew she loved this young man; by auto-suggestion and suggestion from others her subconscious mind accepted the fallacy that she hated him and wanted to kill him to avenge her father. The convulsions were the sublimation of this subconscious desire with accomplishment of the act. There have been no further convulsions since isolation and psycho-analyses.

NEWS AND COMMENT.

BULLETIN OF THE LOUISIANA STATE MEDICAL SOCIETY. The following is submitted for the information of the Chairman and personnel of each committee of the Louisiana State Medical Society, in order that they may have ample time in which to accomplish something in their respective field, before the annual meeting of the Society, April 10, 11 and 12, 1923:

STANDING COMMITTEES.

COMMITTEE ON SCIENTIFIC WORK: Dr. P. T. Talbot, Chairman; Dr. Hamilton P. Jones, New Orleans; and Dr. Elizabeth Bass, New Orleans, La.

COMMITTEE ON PUBLIC POLICY AND LEGISLATION: Dr. Homer Dupuy, Chairman, New Orleans; Dr. Paul J. Gelpi, New Orleans; Dr. W. H. Block, New Orleans; Dr. W. D. Phillips, New Orleans; Dr. P. T. Talbot, New Orleans.

COMMITTEE ON PUBLICATION: Dr. P. T. Talbot, Chairman, New Orleans; Dr. Amedee Granger, New Orleans; Dr. C. J. Gremlion, Alexandria, La.

COMMITTEE ON BUDGET AND FINANCE: Dr. Amedee Granger, Chairman, New Orleans; Dr. L. L. Cazenavette, New Orleans; Dr. M. J. Lyons, New Orleans; Dr. C. M. Horton, Franklin, La.; Dr. C. G. Cole, New Orleans.

COMMITTEE ON MEDICAL EDUCATION: Dr. C. W. Allen, Chairman, New Orleans; Dr. B. W. Smith, Franklin; Dr. F. T. Gouaux, Lockport.

COMMITTEE ON MEDICAL DEFENSE: Dr. R. O. Simmons, Chairman, Alexandria; Dr. J. C. Willis, Shreveport; Dr. P. T. Talbot, New Orleans.

SPECIAL COMMITTEES.

COMMITTEE ON HEALTH AND PUBLIC INSTRUCTION: Dr. E. L. Leckert, Chairman, New Orleans; Dr. W. H. Seemann, New Orleans; Dr. T. A. Roy, Mansura; Dr. J. M. Mosely, Arcadia, La.

COMMITTEE ON HOSPITALS: Dr. P. Graffagnino, Chairman, New Orleans; Dr. L. J. Menville, New Orleans; Dr. R. O. Simmons, Alexandria; Dr. E. M. Ellis, Crowley; Dr. C. M. Horton, Franklin.

COMMITTEE ON VIVISECTION: Dr. C. C. Bass, Chairman, New Orleans; Dr. F. M. Johns, New Orleans; Dr. R. D'Aunoy, New Orleans; Dr. Maurice Couret, New Orleans.

COMMITTEE ON HEALTH PROBLEMS IN EDUCATION: Dr. J. M. Bodenheimer, Chairman, Shreveport; Dr. R. O. Simmons, Alexandria; Dr. J. D. Tuten, Lake Charles; Dr. W. B. Chamberlain, Baton Rouge; Dr. R. W. Faulk, Monroe, La.

The Society will expect a report from the Chairman of each Committee, on their respective workings and accomplishments during the year, to be read at the annual meeting in New Orleans.

Dues, for the year 1923, Louisiana State Medical Society, are now being accepted in the office of the Society, No. 1551 Canal Street, New Orleans, La. If your Parish IS organized, send your dues in to the Secretary or Treasurer of your Parish Society. If your Parish is NOT organized kindly make check payable to the Louisiana State Medical Society, in amount \$4.00 and mail direct to the office of the Secretary of the State Society.

DR. ALLEN EUSTIS, DR. I. I. LEMANN AND DR. C. W. DUVAIL, all of New Orleans, attended the meeting of the Federation of Biological Scientists held in Toronto, Canada, December 28-29, 1922.

THE SEMI-ANNUAL EXAMINATION of the Louisiana Nurses Board of Examiners was held in New Orleans and Shreveport, December 18-19, 1922, at which time fifty-four applicants qualified as registered nurses. The Board conducting the examination was composed of: Dr. J. T. Crebbin, Dr. J. S. Hebert, Dr. G. S. Brown, Dr. F. J. Frater, and Dr. R. W. Faulk.

DR. J. M. BATCHELOR, NEW ORLEANS, recently accepted the post as chief surgeon of the Presbyterian Hospital, New Orleans.

NEW ORLEANS HAS BEEN CHOSEN, by the National Association of Public Health Nursing, as one of the thirteen American cities in which a survey will be made relative to certain phases of public health nursing. The local organization to be studied is the Child Welfare Association.

DR. J. A. DANNA, NEW ORLEANS, was recently elected to the Board of Governors of the American College of Surgeons.

A NEW MATERNITY CLINIC has been opened by the Child Welfare Association at Flood and Dauphine streets, New Orleans. Dr. J. B. Rateau will be in charge. Later other clinics will be opened, one for negro women at 2525 Delachaise street, under

Dr. R. J. Coker, and a baby clinic at 1900 Delachaise street, under Dr. R. de la Houssaye.

THE FIRST ANNUAL GROUP MEETING of the Louisiana-Mississippi-Arkansas Section of the American College of Surgeons convened in Shreveport on January 22 and 23.

This session included clinics and clinical demonstrations on the morning of the two days of meeting; scientific sessions where papers relating to the science and art in surgery were read and discussed; a hospital conference and a mass meeting for the laity at which distinguished orators presented brief addresses in non-technical language on vital topics on public health and preventive medicine. A detailed program was prepared.

All arrangements were made by the following committee: Thomas Ragan, M.D., Chairman; Louis Abramson, M.D., John A. Hendrick, M.D., Alfred Penn Crain, M.D., Rawley M. Penick, M.D., John L. Scales, M.D., James Clinton Willis, M.D.

THE TUBERCULOSIS HOSPITAL FOR NEW ORLEANS was discussed before the Commission Council during last month and the Council finally decided against the Derby tract of land for the proposed buildings. An attempt is being made to re-open the case with the Council. It is to be hoped that soon this matter will be settled for the City as well as the State need this institution badly.

DURING THIS MONTH a steamer will leave New York for South America carrying a large delegation of North America's surgeons. The trip is that of the American College of Surgeons, and no doubt the visit our fellows will make to the Latin-American countries will result in mutual benefit.

DR. C. R. CAMPBELL, SAN ANTONIO, TEX., addressed the New Orleans Association of Commerce recently on "Bats." He asserted that the bat is the most available and effective weapon in mosquito extermination.

DIPHtheria is ON THE DECLINE, according to figures furnished by the New Orleans Department of Health.

MARINE HOSPITAL No. 14, NEW ORLEANS, has been instructed by Surgeon General Cummings to furnish free medical advice by radio to ships at sea. This advice will be transmitted via the Algiers Naval Radio Station. The call for the Algiers station will be "NAT."

RESOLUTIONS PASSED by the Board of Directors of the Loyola Post-Graduate School of Medicine:

WHEREAS it has pleased an all-wise Providence to remove from this mortal sphere, Charles Ansley, our friend and co-worker; and

WHEREAS Charles Ansley was associated with the Loyola Post-Graduate School of Medicine in the capacity of Clinical Assistant, which he ably filled, using his keen faculties, deep knowledge of medicine and untiring efforts in the advancement of Science and the upbuilding of our institution; and

WHEREAS the members of this entire Faculty suffer personally as well as professionally, an unreplaceable loss in the passing of their loyal friend, deep student and able teacher; therefore, be it

RESOLVED, That the Board of Directors of the Loyola Post-Graduate School of Medicine expresses its sincere appreciation of our lamented colleague for the splendid services which he rendered to Medical Science and to this school, and that it voices its feeling of irreparable loss now that his knowledge, skill and unselfish efforts can no longer be displayed in the interest of this school and of its students.

RESOLVED, FURTHER, That copies of this resolution be forwarded to his bereaved family, expressing to them our sincere condolences in their great sorrow.

AT A RECENT MEETING OF THE CENTRAL COUNCIL OF SOCIAL AGENCIES the following officers were elected to serve for the ensuing year: Professor G. P. Wyekoff, President; Mrs. F. C. Coleman, Vice-President; Galen F. Achauer, Secretary; William Pfaff, Treasurer; Executive Committee: H. L. Hammett, Miss Mathilde Godechanz and Dr. Walter J. Otis.

LOUISIANA RADIOLOGICAL SOCIETY held their annual meeting in New Orleans on January 13, 1923. The retiring officers were as follows: President, Dr. Barrow, of Shreveport; Vice-President, Dr. Williams, of Baton Rouge; Secretary-Treasurer, Dr. T. I. St. Martin, of Houma. The officers for 1923 are: Dr. L. A. Fortier, President, New Orleans; Dr. Rutledge, Vice-President, Shreveport; Dr. Edwards, Secretary-Treasurer, Lafayette. The meetings of the Society are held annually in New Orleans.

THE RADIOLOGICAL DEPARTMENT OF HOTEL DIEU announces that it is now completely equipped for clinical photography.

THE STATE MEDICAL SOCIETY OF CALIFORNIA is making elaborate preparations for the seventy-fourth meeting of the American Medical Association to be held the last week in June, in San Francisco.

THE ST. LANDRY PARISH MEDICAL SOCIETY met January 10, 1923, upon call of the President, with Dr. S. B. Wolff, President, presiding, and the following members present: Drs. R. M. Littell, A. B. Pavy, W. R. Boudreaux, Paul Foster, E. Lafleur, F. C. Shute, J. P. Saizan, F. J. Mayer, C. A. Gardiner and B. A. Littell.

The President stated that the purpose of the meeting was the election of officers of this Society for the year 1923 and a delegate and alternate delegate to the meeting of the Louisiana State Medical Society, and for the transaction of any other business that might be brought before the Society.

An election was held and the following officers were elected: Dr. Paul Foster, President; Dr. S. B. Wolff, Vice-President; Dr. A. B. Pavy, Secretary-Treasurer; Dr. W. R. Boudreaux, Delegate to State Society; Dr. E. Lafleur, Alternate Delegate to State Society.

Dr. R. M. Littell moved that a committee of three be appointed to meet with the Parish Board of Health to ascertain the status of a physician attending contagious and infectious diseases in the absence of the health officer. Motion was duly seconded and carried. The Chair appointed Drs. R. M. Littell, W. R. Boudreaux and Paul Foster on this committee.

Dr. R. M. Littell moved that a committee of three be appointed to revise the fee bill of this Society and report at the next meeting. This motion was duly seconded and carried. The Chair appointed Drs. B. A. Littell, F. C. Shute and A. B. Pavy on this committee.

Dr. R. M. Littell moved that the delegate to the State Society meeting be instructed to extend to the State Medical Society an invitation to hold their annual meeting of 1924 in Opelousas. This motion was duly seconded and carried.

Dr. Foster moved that Dr. F. J. Mayer be appointed a special delegate to the State Society for the purpose of working to the

end to obtain the 1924 meeting. This motion was duly seconded and carried.

Dr. Foster, the newly-elected President, delivered an address to the Society stressing the importance of the Parish Medical Society and invoking the active co-operation of the members of the Society in making a means of improving the welfare of the physicians and their patients throughout our parish.

On motion, duly seconded and carried, the meeting adjourned subject to call of the President.

AT THE CHARITY HOSPITAL, NEW ORLEANS: Charity Hospital is supported in large part by an appropriation from the State. However, this is not the sole source of income. The next largest donors on our list are the Slaughter House, auctioneers' fees and the City of New Orleans, from which we receive an annual amount for the Social Service Department.

There are a number of firms and individuals who make donations to the Hospital; some of these donors make a contribution to the Hospital one of their annual charities. The gifts are not always money, but frequently take the form of clothing, food, and supplies of all descriptions. Several of the buildings of the Hospital are the results of gifts from private individuals.

Permits for dances, entertainments, etc., for which an admission fee is charged, furnish the other source of revenue. These permits are issued in the office of the Secretary, in accordance with provisions made by the State Legislature.

DR. ERNEST LEWIS, representing the Louisiana Anti-Tuberculosis League, expressed himself in favor of the proposed plan to request the patrons of the Cumberland Telephone Company to dedicate their "refund money," which is coming to them by the recent decrease in 'phone rates, to the establishment of a state tuberculosis hospital at Greenwell Springs.

DEATHS: Dr. John W. Caldwell, former head of department of chemistry at Tulane, died in New Orleans, January 2, 1923.

Dr. H. A. Gabert, residing in Mandeville, La., died January 13, 1923.

Dr. G. H. Tichenor died in New Orleans, January 15, 1923.

BOOK REVIEWS AND NOTICES.

All new publications sent to the JOURNAL will be appreciated and will invariably be promptly acknowledged under the heading of "Publications Received." While it will be the aim of the JOURNAL to review as many of the works accepted as possible, the editors will be guided by the space available and the merit of respective publications. The acceptance of a book implies no obligation to review.

Diseases of the Thyroid Gland, by Arthur E. Hertzler, M.D., F.A.C.S., St. Louis, Mosby, 1922.

This study on the part of Dr. Hertzler adds another volume to the bookshelf prepared by Dr. Hertzler on various subjects.

As most of us remember, his contributions have included volumes on Case Histories, a work on Tumors, Local Anesthetics, and a two-volume work on the Peritoneum. All of this gives evidence of the activity of the individual.

It is amazing and unusual to find one so active in the literary field, when not under the influence of active associations and competition with medical men in a large medical center.

The author has attempted, in this volume, to present all phases of the thyroid problem from the various hypothesis as to the origin of thyroid diseases to, and including the operative technique. The inclusion in one volume by a single author of normal and pathological anatomy, symptoms, etiology, and the appraisal of the merits of the various tests of functional activity of the thyroid gland is more than one can be expected to do well.

Unfortunately the classification of thyroid diseases is just a bit different from one generally accepted at the present time. This adds unnecessary confusion in the minds of the reader.

The author attaches little importance to Basal Metabolism, and to the Goetsch test.

The chapter on the management of Goitre patients is interesting, because it gives the individual surgeon's point of view.

The review of the anatomy of the cervical region is interesting, and the illustrations are good. The operative technique as described gives a fair idea of the author's methods.

On the whole it is a book which will prove interesting reading for the surgeon who has witnessed thyroid work in the great clinics of the country. It is not such a book as could be recommended to the student, or to the occasional operator who has not read the great works of Crile, and of the Rochester Clinics, and many others who have done so much to standardize the treatment of thyroid diseases.

I. C.

Treatise on Fractures in General, Industrial and Military Practice, by John B. Roberts, A.M., M.D., F.A.C.S., and James A. Kelly, A.M., M.D., 2d Edition, revised and entirely rewritten. Phila., J. P. Lippincott Co., 1921.

The second edition of this valuable book is a welcome addition to the surgeon's library on fractures. This volume is one of the most useful books on fractures which the student could use for reference.

Unfortunately too little space is given by the author to methods of suspension and traction. This is particularly noticeable in chapters devoted to fractures of the femur. It is unfortunate that the author advocates Buck's extension, and sand bags in treatment of fractures of the neck of the femur.

In spite of evident room for difference in opinion in regard to the various fractures concerned, one cannot help appreciating the great value of the work, because of the splendid manner of present-

ing the importance of muscular action in the production of deformity.

On the whole I believe it to be the best single volume on fractures in general for the average student. I. C.

The Newer Knowledge of Nutrition, by E. V. McCollum, Ph.D., Sc.D. Second Edition, revised. The MacMillan Company, New York, 1922.

This book is of great interest not only to students of nutrition but to practitioners in general. It is a careful summary and interpretation of the existing data relating to nutrition. In the first seven chapters the author describes and correlates the experimental studies which have led to a more exact knowledge of the processes of nutrition. He discusses clearly the nutritive value of the proteins and their peculiarity of composition, also the dietary properties of foodstuffs and their vitamin content. The remaining chapters are concerned mainly with dietary deficiency diseases as scurvy, beriberi, polyneuritis, xerophthalmia and the relation of other diseases as pellagra and rickets to diet. It is of interest to note that the author has altered his former views upon the etiology of scurvy as an infectious disease and now considers it a dietary deficiency disease due chiefly to a lack of one of the vitamins, water soluble C. He apparently believes that pellagra is a dietary disease and can be prevented by a satisfactory regimen, although admitting from the conflicting evidence in the literature that it is not possible at present to formulate any satisfactory theory concerning its etiology. The concluding chapters on the dietary habits of man and preventive dentistry alone would be well worth the cost of the book to the practitioner. R. L.

Ephraim McDowell, Father of Ovariectomy and Founder of Abdominal Surgery, with an Appendix on Jane Todd Crawford, by August Schachner, M.D., F.A.C.S. Phila., J. B. Lippincott Co., 1921.

The author has rendered a great service to American surgery by recording the story and life work of McDowell, and the story of the heroine, Jane Crawford.

He pays a beautiful tribute to early American life, that it was the pioneer life that served as a stimulus to individual thought and action.

The work by McDowell is contrasted to work of surgeons living in the atmosphere of Old World universities, hampered by conventionalities and bound by the teachings of masters.

Epoch-making achievements such as McDowell's are often unnoticed by surgeons, who know too little of the facts which have paved the way for present methods.

Painstaking studies such as Schachner's should be a stimulus to others to learn more of the facts of the past which have made our present technical developments possible.

Great credit is due the author for the work which he has done. All students should read this story and profit by it. I. C.

Hay Fever and Asthma: Care, Prevention and Treatment, by William Scheppegegrell, A.M., M.D. Philadelphia, Lea & Febiger, 1922.

This splendidly illustrated volume epitomizes our present-day knowledge of hay fever. The botanical aspect of the subject, with a classification of the hay fever plants, furnishes valuable information. The photomicrographs are original. The etiologic relation of pollen is duly emphasized. Active immunization by the injection of pollen extract is explained in the clearest terms. The author admits with Koesler and other workers that in many cases we must combine vaccine and pollen therapy. Despite the note of optimism in

the chapter on Therapy we feel that the last word is yet to be said in the treatment of this disease. It is surely, however, going to be along lines of immunization, so we are on our way, at least, to a seasonal cure. This volume will help diffuse up-to-date knowledge on this very important subject. It is cause for congratulation that such a worthy contribution emanates from a member of our local profession. H. D.

Operative Story of Goitre, by William Stewart Halsted, A.B., M.D., LL.B., D.Sc., F.A.C.S. Baltimore, Johns Hopkins Press, 1919.

This is one of the most valuable historic reviews on any subject with which I am familiar. On every page there is valuable information for the student of the surgery of goitre. No man should feel that he is conversant with the story of the development of this subject unless he is familiar with this epoch-making volume.

Startling facts are revealed in the first few pages, among these may be mentioned that the author states that from 1880-86, that he did not see nor hear of an operation of a goitre except a case operated by Dr. Sands. Historically this is of importance.

Luigi Porta was the first to ligate the inferior thyroid as a preliminary step in operations for goitre. The date of this operation was July 28, 1850.

Dupuytren, in 1817, in describing thyroid surgery, placed his ligature "on the side corresponding to the brain" in order to avoid prolonged pain, which without this precaution would follow the application. Halsted, commenting on this, states that it is interesting to find reference to the sensitiveness of the artery. Desault, as early as 1792, noted cartilage in diseased thyroids.

Prior to 1883, only 45 operations for goitre could be found reported in the literature of America.

The part played by Theodorus Billroth and Theodor Kocher is wonderfully presented.

Kocher is credited with many single contributions on this subject, among these he mentions first: "that total extirpation of the thyroid is followed by a condition which he named cachexia thyropriva; perfecting the operation of thyroidectomy; demonstration of the value of ligation of artery as a preliminary step to lobectomy in highly toxic cases; and the danger of indiscriminate use of iodine to patients with goitre."

The operation devised by Halsted, and practiced by him and his associates is described in detail in this work.

The last paragraph of the work contains a summary which clearly outlines why the operative method was gradual in its development as it was dependent on the knowledge of the control of hemorrhage, anesthesia, asepsis and antiseptics which had to be gained before this surgical procedure could be perfected.

This skeleton outline will serve to stimulate others to read this wonderful contribution, the publication which came so near the end of Professor Halsted's life is like a beautiful swan song.

I. C.

Diseases of the Stomach and Upper Alimentary Tract, by Anthony Bassler, M.D., F.A.C.P., Fifth Edition, revised and enlarged. F. A. Davis Co., Philadelphia, 1922.

The fifth edition of this volume, like the previous ones, details the many clinical and technical methods in use in the modern diagnosis and treatment of stomach disorders. The X-ray is given just credit for its valuable aid as an adjunct in the diagnosis of gastric and duodenal lesions. This subject chapter is distinctly written and profusely illustrated. A new edition to the causes of functional disorders of the stomach, in conformity with the trend of to-

day's medicine, resolves itself into disturbances of the endocrine organs. Many derangements in motility and secretion of the alimentary tract may depend on improper stimulation by the products of these glands. The ways in which these products act are gradually being worked out.

The author's consideration of the upper digestive tract, other than the stomach, is somewhat limited in this volume. There is no attempt to elucidate upon the many valuable tests applied to the duodenal contents, the most important fluid of a digestive nature.

D. N. S.

Infant Feeding, by Clifford G. Gruice, A.M., M.D., LL.D., fourth edition. W. B. Saunders Co., Philadelphia, 1922.

This edition includes a resume of all the scientific works and publications up to April 1, 1921. For those of us who care to follow the schools of Finkelstein, Czerny and Keller, Meyer and numerous other celebrities of the Far East, this compilation of facts is a source of untold interest. This unique book should grace the library of every physician interested in diseases of children, for even though we may not accept the views propounded, there is sufficient interest not directly relating to the question of feeding to warrant the purchase of this volume.

C. J. B.

Radium Therapy, by Frank Edward Simpson, A.B., M.D. St. Louis, C. V. Mosby Co., 1922.

This work of Simpson is the best book of its kind ever written in the English language.

The technic of radiation as suggested by the author is made clear and simple, representing the methods employed by the best radiologists.

The illustrations are numerous, clear and interesting. No radiologist can afford to be without this masterpiece.

"I Believe in God and in Evolution," by William W. Keen, M.D. Philadelphia, J. B. Lippincott Co., 1922.

In proving the solidarity of all animal life, the versatile Keen draws from his own rich experience as a surgeon and anatomist. While addressed to a lay audience, the busy doctor will find this little volume thought-provoking. The seeker after truth will approach the evolution of man from the medical side.

H. D.

Food, Health and Growth, by L. Emmett Holt, M.D., LL.D. Macmillan Co., New York, 1922.

This little volume of two hundred and sixty-one pages contains the Lane lectures delivered in December, 1921, at the Medical School of the Leland Stanford Junior University. These lectures are five in number, are printed exactly as they were delivered, and include much that would interest the layman as well as the physician. Such topics as Nutrition in Relation to Growth, The Food Requirements of Children during the Entire Period of Growth, The Conditions upon which are based the Requirements for Fat, Protein, etc., Vitamins, and The Practical Means by Which the Nutrition of Children may be Improved, have been discussed with simplicity of expression, brevity of thought, and a sufficient bit of added scientific mention, to make the book of inestimable value to all interested in the problems of the modern-day child and the various phases associated with child life.

To reduce the death rate of children from 280 to 86 per 1000 in the City of New York, is well nigh remarkable—accomplished how—by the concentrated efforts of all concerned in this work, through educational measures principally when one considers that our Federal Government spent last year \$9,700,000 in appropriations for the Department of Animal Industry, and only \$271,000 for the

maintenance of the Children's Bureau, established in 1912. The deduction is simple—even the Federal Government has only given the child, its future citizen, a passing thought.

The every-day topics of vitamins and calories of the principal foods included in the diet of children will be well received at this time. While there is nothing basic in the formulae, there is sufficient interest in this chapter to educate the present-day food fanatic.

On the whole the author deserves the thanks of the nation for publishing another book which will be received in the same enthusiastic way as were the other standard works which have preceded this one.

C. J. B.

Practical Organotherapy: the Internal Secretions in General Practice, by Henry R. Harrower, M.D., F.R.S.M. (Lond.), third edition. Harrower Laboratory, Glendale, Cal., 1922.

A complete and abbreviated resume of therapeutic indications for the alleviation of supposed errors of glandular secretions with especial reference to the composition of pluriglandular formulae, as prepared by the Harrower Laboratory, with a distinct plea for their use. Other than being a ready reference index for one accustomed to the use of Harrower preparations, it might also serve as a ready reference to one well versed, experimentally and therapeutically, in the handling of such diseases.

P. T. T.

PUBLICATIONS RECEIVED.

F. A. Davis Company, Philadelphia: Diseases of the Ear, Nose and Throat, by Wendell Christopher Phillips, M.D., sixth edition, revised; Principles and Practice of Infant Feeding, by Julius H. Hess, M.D., third edition, revised; Feeding, Diet and the General Care of Children, by Albert J. Bell, A.B., M.D.

Paul B. Hoeber, New York: Montaigne and Medicine, by James Spottiswoode Taylor, Commander, M.C., U. S. Navy.

J. B. Lippincott Company, Philadelphia and London: Text-Book of Pediatrics, edited by Prof. E. Feer, translated and edited by Julius Parker Sedgwick, B.S., M.D., and Carl Ahrendt Scherer, M.D., F.A.C.P. First edition in English.

Washington Government Printing Office, Washington, D. C.: Annual Report of the Surgeon General of the Public Health Service for the Fiscal Year 1922; Public Health Reports, Vol. 37, Nos. 49, 50, 51, 52.

Miscellaneous: Transactions of the American Otological Society, Fifty-fifth Annual Meeting, May 1, 2 and 3, 1922., Vol. 16, Part 1; Observations on an Outbreak of Cattle Anthrax in the Sudan, by R. G. Archibald, D.S.O., M.D.

REPRINTS

Factors Contributing to the Increase of Cancer Mortality, by L. Duncan Bulkley, A.M., M.D.; **Trypanosoma Rhodesiense in a Case of Sleeping Sickness from the Sudan; Tuberculosis in the Sudan, with Notes on a Case of Breast Tuberculosis Sudanese,** by R. G. Archibald, D.S.O., M.D.; **Dispensary Service in the United States, 1922; Public Health, Nos. 754, 761, 770, 785.**

STATISTICAL DATA FOR THE MONTH OF DECEMBER OBTAINED FROM THE RECORDS OF CITY BOARD OF HEALTH.

December, 1922—		BIRTHS.	White	Colored
Male			340	146
Female			338	110
Totals			678	256
By Physicians				485
By Midwives				449
Grand Total				934
Stillbirths				34

		DEATHS.		
		1921		
	White	Colored		1922
Male	184	124	Male	204
Female	150	114	Female	111
Totals	334	238	Totals	176
Under 1 year	69		Under 1 year	142
			Totals	380
			Under 1 year	253
				98

December, 1922—	Cases		Deaths	
	White	Colored	White	Colored
Diphtheria	115	10	8	0
Typhoid	22	2	2	0
Malaria	3	2	0	1
Scarlet Fever	24	3	0	1
Whooping Cough	8	0	2	0
Influenza	3	2	3	2
Measles	7	0	0	0
Cs. Meningitis	1	1	1	1
Tuberculosis	52	42	34	25

December, 1922—		DEATHS.	White	Colored
Cancer			41	12
Apoplexy			30	21
Endocarditis and Myocarditis			25	15
Angina Pectoris			6	1
Other Circulatory Diseases			40	31
Bronchopneumonia			26	23
Lobar Pneumonia			12	14
Other Respiratory Diseases			4	1
Diarrhoea and Enteritis			9	9
Appendicitis			5	3
Other Digestive Diseases			4	2
Acute Nephritis			8	5
Chronic Nephritis			22	14
All Other Genito-Urinary Diseases			3	5
Puerperal State			3	3
Malformations			26	19
External Causes			23	18

DEATH RATE PER 1,000 PER ANNUM FOR THE MONTH.

December, 1922—		Non-residents
		Excluded :
White	15.46	12.82
Colored	27.60	23.89
Total	18.75	15.84

Deaths from Premature Births, Violence, etc., are excluded.

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ORIGINAL ARTICLES.

(No paper published or to be published in any other medical journal will be accepted for this department. All papers must be in the hands of the Editors on the tenth day of the month preceding that in which they are expected to appear. Reprints may be had at reasonable rates if a WRITTEN order for the same accompany the paper.)

SKETCH OF THE LIFE OF PASTEUR.*

By OLIVIER L. POTHIER, M.D.

New Orleans, La., December 11th, 1922.

Mr. President, Members of the Orleans Parish Medical Society:

We are assembled here tonight to commemorate the centennial of the birth of the greatest scientist, if not the most striking figure of the nineteenth century, Mr. Louis Pasteur.

What can I say that you have not already heard, how can I add to the eulogies of him who, soaring to the summits of science, opens to us vistas of hitherto unknown worlds? For he is the founder of Stereo Chemistry, the creator of Bacteriology, the father of Preventive Medicine, and the instigator of Anti-septic and Aseptic Surgery. In the forty-eight years of his scientific activity he revolutionized the scientific world, transformed the empiric methods of the age preceding him into the exact, precise and rigorous methods of research and control of his era, and created new sciences: In 1848 it was Molecular Disymetry; 1857, Fermentations; 1862, Disproves Spontaneous Generation; 1863, Studies on Wines; 1865, Diseases of the Silk

*Read Before the Orleans Parish Medical Society, December 11th, 1922.

Worm; 1871, Studies on Beer; 1877, Virulent Microbic Diseases; 1880, Vaccinating Viruses; 1885, Prophylaxis of Rabies. The most wonderful crescendo of scientific discoveries ever attained by a single mind, and reaching its apotheosis in the erection of a monument to perpetuate his memory and his remarkable methods, the Pasteur Institute of Paris.

His astounding attainments aroused the scientific world, and created such enthusiasm in France and in his native town, that in 1880 an ovation was organized in Dole, a town of the Jura, to celebrate his fifty-eighth birthday. On that day, escorted by the officials of the municipality, scientists, co-workers and pupils, he was taken in triumph through the city amid the acclamations and ovations of his fellow citizens, in front of a modest home in the small street, Rue des Tanneurs, and in his presence, as a climax to his triumphant march, was affixed on the face of this house a tablet on which was inscribed in letters of gold:

Ici est né Louis Pasteur,

Le 27 decembre, 1822.

Here was born Louis Pasteur

On the 27th of December, 1822.

In this small house of the Rue des Tanneurs, he lived three years, for in 1825 his father, an old soldier, decorated on the battlefield and who, like most soldiers, returned from the army almost destitute, by hard and arduous labor and economy had succeeded in purchasing a small tannery in Arbois. It was here that Louis Pasteur spent his childhood, surrounded by the affection and love of his parents. His mother, young and full of enthusiasm, visualized the great things that she planned for her boy. The father, more placid and calm, a home body, caring more for his books after the day's work, was more practical. Both, however, were enraptured in their little Louis, and decided that they would make a man of him, and especially would see that he received a thorough education. They took pride in preparing him for his first school, The College Communal of Arbois, where he was entered as half boarder.

The smallest of the pupils, little Pasteur was so proud to enter school that the first days he came with an armful of ponderous dictionaries, which, however, he had no use for. His father at night constituted himself his mentor, but young Louis was

not so enthused at first by his studies, and many were the evenings when his father had to reckon without him, for Mr. Louis had gone fishing or was busy sketching some neighbor or the children. In fact at one time many wondered if he would not become a famous artist. Some of these pastels are still extant all signed and remarkable for their exactness. Later, when he began to become known as a chemist, an old lady of Arbois remarked: "It is a pity that he has become encumbered with all this chemistry, he has missed his vocation, for he would probably have become a renowned artist." However at the time he entered the year of sciences, he changed totally, putting away his fishing tackle and his crayons, he devoted himself seriously to his work. From this day his passion for study and knowledge knew no bounds. From that moment he led his class. His progress was such that the principal of the college remarked that he would attain the professorship, but not of a small college, but of the great Ecole Normale.

There being no professor of philosophy at Arbois, he was transferred to the Royal College of Besancon where, after his first scholar year, he received his Baccalaureate of Letters and was appointed for the ensuing term, Quiz Master (*Maitre Repetiteur*), receiving as such his board and lodgings and twenty-four francs per month. It was while there that every morning at four o'clock he was awakened by the night watchman, who admonished him not to let the demon of laziness get hold of him. He was then eighteen years of age. During the following two years, while discharging his duties at Besancon, he was preparing for the examinations of the Ecole Normale, which he took in 1842. He passed, but he was reported fourteenth on the list. This did not satisfy him, so he refused the appointment and remained in Paris to prepare for the next year, and in 1843 he passed his examination and entered the great school, fourth on the list.

He had become passionately fond of chemistry and gave most of his time to it under Professor Dumas at the Sorbonne and Professor Balard at the Ecole Normale. On Sundays he would spend his time with Mr. Barruel, the preparator of Mr. Dumas, anxious to learn the manipulations and technic of the laboratory. He became so enthused with laboratory manipulations that he decided to repeat all the technic of the preparation of phosphorus

from bones. He purchased a few bones from a butcher, from which he extracted sixty grammes of phosphorus, which were for a long time, and probably yet, exhibited in one of the laboratories of the school, as an example of prolonged manipulations. He spent his time in the laboratory or in the library of the school. It was while in the library one day that he came across the now famous note of Mitscherlich, which he had communicated to the Academy of Sciences. This note of Mitscherlich struck Pasteur. It stated that the tartrate and paratartrate of sodium and ammonium, though identical in every way, differed in that they did not have the same action on polarized light, the tartrate turning it to the right, while the paratartrate was neutral. This dictum was iconoclastic and overthrew all that was known then of the molecular arrangement of crystals. Mr. Pasteur could not be reconciled to it nor admit its truth. He determined to study the question, and immediately began a profound study of crystallography, taking as his guide the extended work of Mr. de la Provostaye, whose experiments he repeated, using the tartrate and paratartrate of sodium and ammonium. When suddenly during one of his manipulations, he found that all the tartaric acid crystals were dissymmetrical, and all the paratartaric acid crystals were symmetrical, a point that had evidently been overlooked by all other observers. Finally he solved the problem by producing a right rotating tartaric acid, already known, and a left tartaric acid, unknown. In this experiment his minuteness, exactness, determination and patience are well exemplified, for in the last manipulation he had to pick by hand the right and left rotating crystals. His report at the Academy of Sciences, in the presence of such luminaries as Arago, Biot, Dumas, de Senarmont and Ballard created a sensation, and was received with more or less incredulity. However a committee of one was appointed to investigate this report, and the exacting Biot was chosen. It is interesting to know that Biot took Pasteur in his own kitchen and exacted that he prepare his solutions and crystals there, and from material that he, Biot, had selected. When the crystals, prepared in the presence of Biot as requested, were ready Biot instructed Pasteur to take them to his laboratory at the College of France and to place the right rotating crystals to his right and the left rotating crystals to his left, and to make a statement of the fact, which Pasteur did. When Biot

made the final test, he was almost overcome by what he saw, and taking Pasteur by the arm he said to him: "My dear child, I have loved science so much, that this makes my heart beat." Pasteur was then twenty-five years of age, and Stereo-Chemistry was founded.

In his further studies of symmetrical and dissymmetrical crystals he found that, if he introduced a living organism in his solutions, this organism would absorb the right rotating acid, and leave the left rotating acid in solution. This new discovery brought a new problem, which made him undecided on his future work, when suddenly he was appointed, at thirty-two years of age, Dean of the Faculty of Sciences at Lille, whose principal industry is the manufacture of alcohol. This decided him to take up the study of fermentations.

The theory of the moment on ferments was that of Liebig: "That ferments were all kinds of nitrogenous substances: albumen, fibrin, casein, etc., or liquid containing them, in state of alteration, produced by the contact of air." All the authors of the time seemed to agree with Liebig. Without going into the details of the experiments of Pasteur, and how he proved his findings, he finally demonstrated that all fermentations were produced by a living microscopical organism, and that each form of fermentation had its specific organism.

From this discovery to the fact that Spontaneous Generation did not exist was only one step further in the world of the Infinitely Small, as Pasteur described these minute organisms.

To appreciate and understand the work of Pasteur, and the opposition that he met, we must revert to this time. It was then still believed by many that mice could generate spontaneously from ferments contained in soiled shirt reacting on a handful of wheat, which were packed in a vase, or that scorpions would crop out of crushed grass stuffed in a hollow brick. Further that all decomposing or putrefying substances was filled with spontaneously generated organisms. In 1858 Mr. Pouchet read a report to the Academy of Sciences, in which he affirmed that he had demonstrated the spontaneous generation of microscopic organisms. This report, if true, would disprove all that Pasteur had advanced in the fermentations, hence the necessity of further study.

About this time he had been called to Paris to the Ecole Normale to take charge of the superior scientific courses. Though an honor, he was only thirty-five. Not being on the teaching staff he was without a laboratory. Not being able to obtain one from the Minister of Public Instruction, he installed one at his own cost in the attic of the Ecole Normale, to continue his researches. When Biot heard of his decision to take up the study of Spontaneous Generation he strenuously opposed it, telling him that he was wasting his time. Dumas also tried to dissuade him. But he was not to be discouraged and kept at his work. In 1864 at The Sorbonne, in a remarkable lecture to a distinguished assemblage composed of scientists, philosophers, society women, priests and writers, he demonstrated that the particles of dust carried by the air, or deposited on objects about the laboratory, contained the germs which developed in suitable substances and produced the phenomenon of supposed spontaneous generation. By a variety of experiments, in which his ingenuity was tested to its utmost, he demonstrated the truth of his assertions. The most important of these was that in which he introduced into a flask a putrescible fluid, and then bending the neck of the flask to an acute angle, and then drawing the end of it to a minute opening, he boiled the contents of the flask until steam spouted from the opening. After this treatment he demonstrated that he could keep the fluid indefinitely without contamination wherever he put it and only produced contamination when the neck of the flask was filed off. For every obstacle brought in opposition to his theory he developed a new method of research and finally in January, 1864, a commission was appointed to decide of the validity of his assertions. At the request of his opponents the commission met on June 15th, and at the meeting refused to abide by the rules of the commission and retired.

His studies on wine are only the corollary of his studies on fermentations, and was an industrial application of the scientific facts that he had demonstrated. That the different diseases of wine were due to microorganisms and he proposed the heating of wine to 55 or 60 C. to prevent the appearance or the growth of these, developing what we know now as pasteurization.

In 1865 sericulture in France was at its lowest ebb, there had been a loss of 100 million francs, when a petition from 3,600 citizens from the departments where silk is manufactured, was

sent to the senate, requesting aid from the government. A commission was appointed of which Mr. Dumas was the reporter, and in rendering his report he suggested that Mr. Pasteur be asked to investigate the disease that had produced such damage. Pasteur recused himself, protesting that he had never even touched a silk worm. So much the better, retorted Mr. Dumas, you will have to guide you your own observations. Pasteur however was not convinced but through deference to his old teacher, he accepted, and at once busied himself about the work.

On the 6th of June, 1865, he moved to Alais, establishing himself in a small house at three kilometers of Alais. A few hours after his arrival he observed the presence of small corpuscles in the bodies of a few silk worms, and demonstrated them to the president and several members of the committee who had never seen them. During five years he returned several months each year to this small house in Alais, at what is known as le Pont Gisquet, there, aided by Mrs. Pasteur and his daughter, he raised silk worms. During this period many of his pupils and preparators of the Ecole Normale, among them Duclaux, Gernez, Maillet, Raulin, came and worked with him, such was the devotion and respect of all those who were associated with him in his work. After these five years of research and patient labor, he reported two diseases fatal to silk worms, pebrine and flacherie, for each of which he proposed a method of prevention. The method is well known now and consists in the microscopical examination of the female butterfly and its ova, and if found infected to reject them.

After this remarkable work he returned to Paris, but his continuous labors had undermined his health and in the month of October, 1868, he was stricken with apoplexy with left hemiplegia. A few days after, thinking his death close at hand, Pasteur dictated to his wife a note on the subject of silk worm disease and eight days after this note was read to the Academy of Sciences. For months his family and friends were anxious less the end come. But he finally rallied, though he never completely regained the full use of his left side. During his illness he chafed at the opposition offered to his methods to prevent the disease of silk worms. Finally in January, 1869, he decided to once more go to Alais to try new experiments, and nothing could hold him. Unable to work himself, from his invalid chair he directed

the experiments, and controlled his former work and returned, having established once more the surety of his methods. However it was not until called by the Emperor who asked him to take charge of the sericulture of the ville Vicentina in Austria, the property of the Prince Imperial, that his methods were finally adopted. It was with enthusiasm that he accepted, though in his travel through France and Italy he had to travel lying down and to be carried in an invalid chair. In one season at this villa, from a total deficit, by his methods he produced a net benefit of twenty-six million francs. On his return the Emperor in July, 1870, appointed him senator, but soon after the empire fell and like many other things his appointment was lost, but Pasteur had more important things to think about besides that of becoming a senator.

For two years he remained at Arbois, for the first time in his life unable to work, on account of his health and the discouragement produced by the disaster of the Franco-Prussian war.

In 1871, having recuperated he immediately wished to return to Paris but was prevented by the Commune. It was then that Mr. Duclaux, one of his former pupils, now professor of sciences at Clermont-Ferrand, offered him his laboratory, which he gladly accepted. It was then that he made his study on Beer and developed a scientific process of manufacture, which consists essentially in the sterilization of the mash and the fermentation of it with pure yeast, and the pasteurization of the finished product. The latter especially applicable to bottled beer.

The physicist, Robert Doyle, speaking about fermentations, said: "Whoever will be able to understand ferments and fermentations, will more than anyone else be able to explain the morbid phenomena of fevers as well as of other infections. These phenomena will probably never be understood without a thorough knowledge of the theory of fermentations." In 1864 a German professor, Dr. Traub, accepts the observations of Pasteur on fermentations and declares that the theory of Liebig is untenable after the research of Pasteur. This remark was made while discussing the intravesicular ammoniacal fermentation of urine.

In February, 1876, Tyndall wrote to Pasteur the following: "For the first time in the history of science, we have the right to hope that medicine will soon relinquish empiricism and es-

tablish scientific causes for epidemic diseases. When this great day will come, humanity, in my opinion, will recognize that it is to you that it owes its greatest gratitude." So that everywhere his discoveries, as well as his previsions, had stimulated researches on infectious diseases. One of the most important at the time was the report of Davaine and Rayer in 1850 in the Bulletin of the Society of Biology of Paris, on Charbon. This report excited such a series of discussions between Davaine, Jaillard, Leplat and Koch, that Pasteur became interested and wanted to get to the truth of the whole matter. It is then that he brought again his method of obtaining pure cultures of the organism and was able to produce Charbon at will. But some of his opponents maintained that in the blood of many of their inoculated and dead animals no organisms could be found. Meeting this objection he brought out the fact that in the animals inoculated and killed by Jaillard and Leplat in their experiments, that these animals had died of infection by the septic vibrio and not of Charbon. He further established that Charbon was aerobic while the septic vibrio was anaerobic, and that both were propagated by spores. He was then entirely launched in the study of the causes of diseases. His experiments of Charbon in fowls was the first step in the study of immunity. Later his work on the cholera of fowls accentuated this study of immunity and another fact the attenuation of virulent cultures and the development of vaccines. Having discovered the vaccines for the cholera of fowls, he produced that of Charbon. It was on the 28th of February, 1881, that Mr. Pasteur announced to the Academy of Sciences his discovery of the vaccines of Charbon.

I will not mention here the series of studies and experiments that followed his discoveries. At his laboratory of the Ecole Normale, many diseases were studied: Yellow Fever, Furunculosis, Puerperal Septicemia, and etc. The one predominant study however during a period of five years, was rabies. It is interesting to see how he gradually came to use the brain and spinal cord to produce rabies and how he finally used the intracranial route of inoculation. Then the discovery of the fixed virus and finally the method of attenuating the virus. He was then ready to experiment on the prevention of rabies. All of his experiment on animals had been successful. The commission appointed to investigate his new discovery was favorable

and confirmed his findings. Then it was that on the 4th of July, 1885, at eight in the morning Jules Meister, a child nine years of age, son of a baker of Steige, Alsace, was bitten by a mad dog and sent to Pasteur for treatment. It was on the 6th of July that he arrived at the laboratory of Pasteur on Rue Vauquelin and the first inoculation was given at 8 p. m. On the 18th of July he received his last treatment, and he was kept under observation until the 27th when he was allowed to return home, but with the understanding that he was to report by letter at first every fourth day, then every eighth day, then every fifteenth day. On the 26th day of October, 1885, Mr. Pasteur reported his first ease of the prevention of hydrophobia to the Academy of Sciences. After young Meister, the shepherd Jupille from Ura, who, to save a group of children, stopped a mad dog and was seriously bitten before he could kill it, was the next. After this the laboratory on the Rue D'Ulm became the center of attraction of the scientific world, and from everywhere came patients bitten by mad dogs. All returned well. One, however, came thirty-seven days after being bitten, a little girl, Louise Pelletier, ten years of age, on the 9th of November, 1885. Pasteur was profoundly anxious and worried of the delay that had occurred and could not refrain from asking the parents why they had not come sooner. He knew the small chance of success in this case, but as he said: "Had I only one chance in ten thousand to save this child I must not hesitate." The child was treated, and the treatment completed, when a few days after December the third she died of hydrophobia. This death, as Pasteur had surmised, was taken up by his opponents, who even went so far as to say that the child, Louise Pelletier, had died not from hydrophobia but from the inoculations. How many times have I not heard the same thing whenever we were unfortunate enough to lose one of our cases at the Pasteur Institute of the Charity Hospital. However, the cases continued to come to Rue D'Ulm and their successful results was more than an answer to these infamous delegations.

This last glorious achievement of Mr. Pasteur created such admiration and enthusiasm that a popular subscription was organized to establish and build a memorial to Pasteur, where his studies and his work could be continued. And so it was that the Pasteur Institute was inaugurated and still remains as a

tribute to glory and world-wide recognition of the discoveries and methods of Pasteur. This monument to his scientific attainments is only one of the many honors conferred upon him. In 1856 the English Royal Society conferred upon him the Rumford Medal for researches on the Polarization of light with Hemihedrism of crystals; 1863, Professor of Geology and Chemistry, Ecole des Beaux Arts; 1867, Professor of Chemistry at the Sorbonne; 1881, The French Academy; 1882, a medal from the Russian Society of Rural Economy; in 1882, the Albert Medal; in 1887, Permanent Secretary of the Academy of Sciences. He was conferred the full order of the Legion of Honor, Orders from Russia, Denmark, Greece, Brazil, Turkey, Norway, Portugal, and many other honors which I will not mention.

In 1889 he gave up all his posts to confine his activities entirely to the direction of the researches and studies of the Pasteur Institute. Amongst his collaborators which he formed were Chamberlan, Roux, Thuillier, Duclaux, and many others. He attracted many other workers at the Institute.

On December the 22nd, 1892, his seventieth birthday, a magnificent celebration, his jubilee, to which contributions were sent from every civilized country and all the great institutions of learning, was organized.

Three years later at five in the afternoon, September the 28th, 1895, Pasteur died, at his home at Villeneuve-L'Etang, near Sevres, holding in one hand that of his cherished wife and in the other his crucifix. His ashes repose in a special chapel tomb in the Pasteur Institution in Paris. This chapel seems to form the main part of the foundation of the building and is symbolic of the life of the man in whose honor it was erected. Above his tomb are inscribed these words that he pronounced at the panegyric of Little: "Happy the man who bears within him a divinity, an ideal of beauty and obeys it, an ideal of art, an ideal of science, an ideal of country, an ideal of the virtues of the Gospel."

It is befitting that we should close this sketch of the life of Pasteur that he gave to young men: "Young men, young men, devote yourselves to the sure and powerful methods, of which we as yet know only the first secrets. And I say to all of you, whatever may be your career, never permit yourselves to be overcome by degrading and unfruitful skepticism. Neither permit

the hours of sadness which come upon a nation to discourage you, live the serene peace of your laboratories and your libraries. First, ask yourselves, what have I done for my education? then, as you advance in life, what have I done for my country so that some day that supreme happiness may come to you, the consciousness of having contributed in some manner to the progress and welfare of humanity. But whether our efforts in life meet with success or failure, let us be able to say, when we near the great goal, I have done what I could."

THE INFLUENCE OF PASTEUR ON SURGERY.*

By HERMANN B. GESSNER, M.D., New Orleans, La.

I invite you to join with me in visualizing a modern operating room. Before the patient is brought in, we look over the apartment and observe its tiled floor, its smooth walls, its rounded contour, free from crevices and shelves such as might shelter dust in any considerable quantity. Ranged on one side in a wide arc, we find the tables of supplies, piled with packages of steam-sterilized gowns, sheets, towels, pillow-slips, gauze, sponges and rubber gloves, trays of boiled instruments, besides sutures and ligatures prepared in a special way. They are presided over by a nurse attired in a sterile white gown, with head—all but the eyes—covered with a white cap, and with well scrubbed hands encased in rubber gloves. The patient is brought in, is anesthetized; the surface to be operated on is prepared by the brief application of sterile mops, moistened with chemical preparations. All of him but this surface is covered with sheets, towels and pillow cases. Finally in comes the surgeon, attired like the nurse. The operation proceeds in an atmosphere of serene confidence; its completion is followed by the application of sterile gauze secured in place by means of bandages and plaster. A week or so later the dressings are removed, a few sutures taken out, a superficial dressing applied for protection. This picture I present to you as that of a routine operation of to-day.

Less than sixty years ago quite a different aspect was presented by the operating room. If you had visited the Charity Hospital of New Orleans at that time you might have seen, before the operation you came to observe, an autopsy being held.

*Read Before the Orleans Parish Medical Society, December 11th, 1922.

The table, cleared of its cadaver occupant, was washed off and quite simply prepared for its living patient, who followed. The surgeon came in attired in his street clothes with an apron to protect them against soiling. He washed his hands when he got through the operation, to remove the blood, pus, etc., that might have soiled them. Marine sponges were used in operation after operation; the wound was dressed with charpie picked by convalescent patients with unwashed hands. Following the operation there was a period of great anxiety, for the arch-enemies of the surgeon, erysipelas, hospital gangrene, pyemia were frequent invaders of the crudely made wound; this was expected to suppurate, did so except in very rare instances, consequently had to be dressed frequently; the ligatures of vessels hung out of the wound, were gently pulled on daily till they came away at the end of two weeks, sometimes followed by a profuse and exhausting secondary hemorrhage. There was a high mortality; the morbidity was proportionately heavy; the results in the patients who recovered were marred by scars and deformities. Surgery at this time was necessarily limited to urgent cases, largely to lesions of the extremities. When it went beyond these, it was usually to relieve some painful affection such as urinary stone or some collection of pus like a liver abscess. The visceral cavities of the body—the cranium, the thorax, the abdomen—were rarely invaded, and then with fear and trembling.

As late as 1874 the Charity Hospital reports list only 24 operations among a total of 5,774 patients, about 4 to 1000, contrasting markedly with a total in 1921 of 3748 operations among 18,162 patients, about 200 to 1000. After a lapse of fifty years the proportion of operations to patients has been multiplied by 50. Such has been the result of the change from the crude technique of the pre-antiseptic era to the refined methods of the present day, the outer forms of which have been said to remind onlookers of a religious ceremony. They are indeed identified with the religion of service of which the French chemist, Henri Pasteur and the English Quaker, Joseph Lister, will ever be known as high priests. It was Lister (then professor of surgery in Glasgow) who in 1867 led the way to security in surgery—so far as freedom from infection is concerned—by the publication in the *Lancet* of his paper, "On a New Method of Treating Compound Fractures, Abscess, etc., With Observation on the

Conditions of Suppuration." In the same year appeared in the *Lancet* a second and more important paper, "On the Antiseptic Principle in the Practice of Surgery," read before the British Medical Association in Dublin on August 9, 1867, in which he reports that "during the last nine months not a single instance of pyemia, hospital gangrene or erysipelas has occurred in them (his hospital wards)." Repeatedly he gave credit to Pasteur for the ideas which led him to develop surgical antiseptics. I take the liberty of quoting from his writings at this time: "But when it had been shown by the researches of Pasteur that the septic property of the atmosphere depended, not on the oxygen or any gaseous constituents, but on minute organisms suspended in it, which owed their energy to their vitality, it occurred to me that decomposition in the injured part might be avoided without excluding the air, by applying as a dressing some material capable of destroying the life of the floating particles."

Again: "We know from the researches of Pasteur that the atmosphere does contain among its floating particles the spores of minute vegetables and infusoria, and in greater numbers where animal and vegetable life abounds, as in crowded cities or under the shade of trees, than where the opposite conditions prevail, as in unfrequented caves or on Alpine glaciers." At Pasteur's jubilee in 1892 Lister paid a feeling tribute to the man whose work he had been the first to appreciate.

In his third Huxley Lecture, delivered in 1900, after his retirement from active work, he referred to a publication of his father, J. J. Lister, "On the Improvement of Achromatic Compound Microscopes," showing how his attention had early been directed to the study of minute living things. He went on to speak of his own study of inflammation in the web of the frog's foot and of his interest in pyemia, which he tried to prevent by using antiseptic washes (of his and his assistants' hands) and by drying the hands with a towel before passing from one dressing to another. He believed, "with chemists generally, that putrefaction was caused by the oxygen of the air." The lecture ends with the sentence: "It will thus be seen that I was prepared to welcome Pasteur's demonstration that putrefaction like other true fermentations, is caused by microbes growing in the putrescible substance."

The work of Pasteur and of Lister sowed fertile seed in a fruitful soil. The introduction of ether and chloroform in 1846 and 1847, respectively, had greatly broadened the field of surgery. Surgeons no longer hurried through operations on conscious patients. Anesthesia made possible the deliberate and painstaking operations of a new generation of medical men, who found a greatly increased number of patients attracted by the elimination of operative pain. This increased activity made more conspicuous the dread complications, to which Lister referred when he told the B. M. A. in Dublin that for nine months his hospital wards had been free from hospital gangrene, pyemia and erysipelas. With anesthesia secured, relief from sepsis was eagerly sought. Lister's methods were speedily taken up. Within the calendar year the *Lancet* had an editorial comment to the effect that: "If Prof. Lister's conclusions with regard to the power of carbolic acid in compound fractures should be confirmed by further experiment and observation, it will be difficult to overrate the importance of what we may really call his discovery."

Edinburgh and London soon followed Glasgow in the application of the methods recommended by Lister. As might be expected, some discordant notes were sounded. There were those who said that they had tried the antiseptic method and had been disappointed. Still others said that though the method was good, Lister did not deserve credit for it because carbolic acid had been used in Paris and in London. Further, criticism was leveled at the frequent changes in Lister's technique, which was directed at keeping the carbolic acid—at first used only for accidental wounds—from escaping by means of block tin, waxed cloths, etc. The dispassionate verdict of history is that Lister deserves credit for the purposeful use of phenol to control infection in wounds. The failure of other surgeons to obtain similar results does not astonish those who know how technique may suffer mutilating changes at the hands of the inexact. The change of technique from time to time was to be expected from a truth-seeking man like Joseph Lister, who kept ever reaching out further and further to improve methods and results. He has been followed in this way by a series of innovators who have succeeded in making antisepsis and asepsis an ever-living art, not even now fully crystalized. While the British cities

fell in line behind Glasgow and Edinburgh and were followed slowly by Italy and France, it remained for Richard von Volkmann in Halle, Saxony, to give the first demonstration of the Listerian methods in a massive and convincing fashion. Driven to despair by the shocking mortality in his hospital wards, he studied the methods of Lister for fully a year, then applied them with scrupulous care. So great was his success that Lister's visit to the continent in 1875 was turned into a triumphant tour, with public entertainments at Munich and at Leipsic. In our own country the profession was quick to note the possibility of the Listerian method. In the year of their appearance Lister's introductory papers were reviewed in the *American Journal of the Medical Sciences*. As early as 1869 Dr. Frederic D. Lente of Cold Springs, N. Y., suggested the use of phenol for preventing infection of surgeons' wounds, not knowing that Lister's work had already progressed to this point. In New Orleans the most ardent propagandist for the new method was Dr. Moritz Schuppert, who having heard in 1874 the reports of von Volkmann's success in Halle, went over in 1875 to personally observe the application of the method and judge for himself of the results. In the *N. O. Medical and Surgical Journal* of March, 1876, he gave his colleagues a preliminary report on the actual practice of antiseptis by von Volkmann, following this with a paper in the January, 1878, number entitled "Lister's Antiseptic Treatment of Wounds in Wards 3 and 4½ of the Charity Hospital of N. O. During 1875, 1876, 1877. In this later paper he gave a full report on the results obtained in Halle, showing that in a period of 15 months, 5000 cases had been operated on with not a single suppurating or putrefying phlegmonous inflammation, not a single acute collection of pus, besides referring to his own application of the antiseptic method.

Within 10 years of the appearance of Lister's first paper surgical antiseptis had spread to the limits of the civilized world. It is interesting to note, in showing the preparation of the medical world to seize on the method, that in obstetric practice this life-saving advance had been made, to a considerable degree, more than 20 years previously. In 1843 our own Oliver Wendell Holmes, better known to us for his literary productions, had published a paper "On the Contagiousness of Puerperal Fever," asserting that this disease may be conveyed by physicians from

patient to patient, and recommending among other things the washing of the accoucheur's hands with calcium chloride. A little later, in 1848, Ignaz Philipp Semmelweis of Vienna wrote along similar lines, showing the reduction of the mortality rate in the lying-in wards from 9.92 to 1.27%. Both men had encountered violent opposition which in each instance was met with unflinching courage. It was typical of Lister to acknowledge, when he learned of Semmelweis' work, that the latter had been his forerunner.

In the foregoing it has been my task to trace our infection-free technique, typical of which is a report from one clinic of only 1.7% of infections in 6,825 surgical cases, including 1,494 on the stomach or intestines, to Lister, and his inspiration to Pasteur. Looking retrospectively at the period under consideration, it is interesting to note that a long period of slow progress in the study of minute life culminated in the work of a chemist who laid the broad foundations of bacteriology and parasitology; that a practising surgeon at once saw the significance of his researches and applied their essence to his daily work; that his fellows were at once convinced of his sincerity and followed him with a benefit to humanity difficult to value.

THE INFLUENCE OF PASTEUR ON BACTERIOLOGY AND PATHOLOGY.

By JOHN A. LANFORD, M.D.

Pasteur early in life showed certain traits which marked him for a career of importance—in his daily tasks he was most scrupulously accurate and truthful.

It was in the field of crystallography that Pasteur, led by an interest in the ingenious and delicate methods of the science, first showed his exceptional capacity to observe minutely things and processes and to correlate and interpret the results of his observations. He began by carefully repeating a series of crystal measurements on tartaric acid, racemic acid and their salts shortly before published by Provastaye, during which study he observed a very important but unobtrusive thing which the physicist had overlooked—regular evidences of hemihedral facets. This research culminating in 1848 with the discovery of the nature of

raeemie acid proved that Pasteur had already made himself master of the experimental method.

At this period of Pasteur's career the prevalent doctrines of fermentation were unsatisfactory and uncontrolled by experimentation although it was well known that putrescible materials can be permanently protected from the processes of fermentation and decomposition by boiling and exclusion of air. It was thought, too, that alcoholic fermentation was due entirely to a chemical process and that oxygen was sufficient to excite the process. Schaun, however, showed that the necessary *something* to initiate the fermentation of sugar is destroyed by heat; that it is a living organism—but he failed to maintain aggressively the new doctrine of the dependence of fermentation on micro-organic life. The result was the bacterial hypothesis failed to make any important advance in the face of the sharp criticism and ridicule of Leibig whose word was considered final in all matters chemical and physical.

Leibig and others at that time who were striving to explain the phenomena of life by physical and chemical laws considered it a retrograde step to assume that a living organism like the yeast plant is the cause of alcoholic fermentation and effectively pointed to the fact that sugar undergoes other kinds of fermentation than alcoholic such as lactic and butyric and nothing like a yeast cell was seen in these allied types of fermentation. Leibig thought that these various kinds of decomposition had one feature in common—the presence of a small quantity of nitrogenous substance which acted as the real ferment causing fragmentation of the molecule.

Pasteur considered the position of Leibig as wholly unintelligible as it rested more on prejudice than experimental evidence, and resolved to investigate the subject of fermentation from the standpoint that the process is due to the mediation of living organisms. This research ended in the discovery of a specific lactic acid organism and in the cultivation of this and other organisms in an artificial media free from albuminoids. He then formulated the hypothesis that different types of fermentation are dependent on different types of microorganisms and this idea of specificity soon established in relation to ordinary decomposition ultimately became the basis of our modern knowledge of the infectious diseases.

The research on lactic acid fermentation marked the birth of the science of bacteriology and completely disproved the chemical theory of fermentation—it led to the development of a method designed to secure pure cultures from fluid media, the use of culture media of known composition and the chemical study of the products of decomposition, and were achievements of the greatest significance for the future of the great department of knowledge which has revived the biological sciences; it was while studying fermentation that Pasteur noticed that certain motile organisms capable of producing butyric acid decomposition of sugar behaved very differently according to their position with reference to the cover glass, those at the center being actively motile while those at the periphery and exposed to the air were checked. From this observation came the fundamental conception of anaerobic life.

Further studies which seemed close to the subject of fermentation were the manufacture of vinegar and the diseases of wine. The study of vinegar led to the recognition of the microorganic nature of the vinegar film and brought acetic fermentation into line with lactic and butyric fermentation. In the study of diseases of wine, he recognized the dependence of sour, bitter and muddy wines on the presence of definite types of living ferments and was able to control these disturbing agencies by the use of moderate heat. From this recommendation has sprung the use of the widely used method of sterilizing which is called “Pasteurization.”

About this time he was called upon to solve the mystery of the plague which was threatening the extinction of the silk worm industry. He approached it with the conception that if the butterfly is sick, reject all of its eggs. It required five years of Pasteur's most devoted attention to establish this conception on a scientific basis, during which study he noted certain facts which have a striking analogy in the diseases of man—that is the various susceptibilities of different individuals to the same microorganism, the influence of the path of infection and the fact that bacteria acquire increased virulence after passage through the bodies of living organisms.

The idea that some diseases are due to living organisms was suggested by Boyle 200 years before the days of bacteriology and was discussed from time to time by scientific men. Many of

the leading scientific men were hostile to any mere hypothesis of contagion by germs and the illuminating cell doctrine of Virchow was not especially favorable to the idea that living organisms from outside can excite disease by fixing themselves and developing in the body.

Pasteur's training and temperament and genius admirably fitted him not merely to detect the great truth of bacteriology but to force it upon a doubting world. But while he took a large part in the conception of disease, the field was prepared by others, especially by the fine observations of Davaine and the experimental methods of Koch.

Davaine had in 1850 observed thread-like bodies in the blood of animals dead of anthrax but not until thirteen years later, incited by Pasteur's work on butyric acid fermentation, did he proclaim them as the cause and only cause of anthrax. However, he was unable to prove his statements, and Pasteur a little later independently worked out some of the most striking features of the etiology of anthrax and convinced the best scientific minds of France of the relationship between the bacilli of Davaine and the perpetuation of the anthrax plague.

In searching for fresh proof of the bacterial origin of disease Pasteur made some visits to the hospitals of Paris. Here he found the same pus exciting organism in the pus from a series of boils, and osteomyelitis, and that these two conditions so different in clinical characteristics are identical in etiology. He soon announced that childbed fever is a septicaemia commonly due to a coccus in chains which could be detected in the cavity of the uterus, in the blood at the uterine sinuses and in the blood of living patients.

Not long after the beginning of the anthrax study, the attention of Pasteur was directed to a disease which was destined to play a remarkable part in leading to the great goal toward which the researches of the great master were carrying him—the discovery that it is possible experimentally to induce immunity to disease caused by virulent microorganisms.

An organism had been detected by Perroncito in chicken cholera and Pasteur succeeded in growing the organism outside of the living body and experimentally inducing chicken cholera by means of these cultures. Returning to the laboratory after a short absence, he found that his cultures of bacilli of chicken

cholera had failed to grow or had grown only feebly. To increase the activity of these bacteria, they were now inoculated into normal fowls. The results were disappointing as the inoculated fowls showed no signs of the disease. This made it necessary to isolate and grow actively pathogenic bacteria from fowls with chicken cholera. Having done this it occurred to Pasteur to inject with fresh and virulent bacteria the fowls previously inoculated with the attenuated strain. To his surprise, nearly all these previous fowls resisted the virulent organisms. They had been immunized by mean of attenuated cultures and a new principle had been discovered in medicine.

It appeared probable that what had been accomplished for chicken cholera could be extended to other diseases—one special consideration made him hopeful as to the possibility of immunizing sheep and cattle against anthrax. He had noticed that certain sheep long exposed to anthrax through grazing on infected pastures did not die after an experimental inoculation with a virulent culture whereas previously unexposed animals of the herd died promptly after such inoculation. Further, he knew that fowls could be immunized against chicken cholera by feeding them the specific germ of the disease and this fact strongly suggested a similar explanation for the anthrax immunity which he had noticed.

He tried to attenuate the anthrax organism in the same way as were effective with the chicken cholera organism but because of the capacity of the anthrax bacillus to form spores, he was unsuccessful. He finally succeeded however in growing anthrax without spore formation at temperature of 42-43 degrees C. in presence of oxygen. By varying the procedure somewhat, he was able to prepare a series of anthrax vaccines of different degrees of activity, the use of a mild vaccine being followed by that of a stronger one in course of immunization.

The genius of Pasteur has given to biological science several definite methods of modifying the pathogenic character of certain microorganisms as already described, but while studying swine erysipelas, he found that the virulence of these organisms could be increased or decreased by passing through susceptible or non-susceptible animals. From a modest beginning, this research has grown to be the crowning work of his life in the sense of embodying the fullest and, in some respects, most original

expression of his ideas in the use of experimentally enfeebled viruses for the investigation of infectious processes.

The transmission of rabies through bites made probable the infectious nature of the disease and encouraged the hope of the isolation of the organism from the saliva of rabid dogs. But all his efforts to detect the specific organism were fruitless and, further, the experimental transmission of the disease by the saliva is a matter of great uncertainty. Because of the uniformly fatal outcome of hydrophobia, it was impossible to form any opinion as to whether the unknown virus was capable of conferring immunity. He realized that a reliable way must be found to transmit rabies experimentally, and acting on a suggestion of Dr. Dubue of Pau that the disease is essentially one of the central nervous system, Pasteur took small bits of nerve tissue from animals dead of rabies and placed them under the skin of experimental animals. This method was but little improvement but served as a clue to a notable advance, that is the introduction of the rabic nerve tissue directly into the C. N. S. of animals. He then found that rabies regularly followed subdural inoculation with rabic nerve tissue. He found that the first dog showed unmistakable signs after the fourteen days and other animals similar results. He found further that he could increase the pathogenic property by carrying it subdurally through a series of rabbits or reduce it for dogs by carrying it subdurally through a series of monkeys. He thus had at his command three viruses, one of natural strength, one of increased virulence and one of decreased virulence. Later experiments showed that a safe virus could be prepared by drying over caustic potash at 21 degrees C. the spinal cord of rabbits dead of rabies.

By injecting subcutaneously first a weak and subsequently a stronger one into parts with very few nerves, Pasteur succeeded in immunizing dogs against otherwise fatal subdural inoculation. This success suggested the possibility of immunizing human beings with the result familiar to all.

The great research on rabies fittingly marks the culmination of Pasteur's long career as an investigator.

In that investigation can be seen the same technical skill, the same respect for minute detail and the same pertinacity of purpose that had distinguished so many earlier researches, but there

can be seen also a degree of originality and a fertility of resource that excel nearly all previous exhibitions of these powers.

In conclusion we may briefly sum up the influence of this great master by saying that he founded the science of bacteriology and showed the great dependence that biology has on the principles of physics and chemistry.

PASTEUR—HIS WORK AND WHAT IT HAS DONE FOR MEDICINE.*

By J. D. WEIS, M.D.

The history of mankind rolls down to us out of the ages, and intimately interwoven with it is the history of medicine. From the culture of Egypt and biblical times the fogs and mists of superstition and secret cults allow no ray of light to pierce the darkness; from the mythology of ancient Greece and Rome there comes no light save a spark here and there, a mythical Esculapius, a semi-mythical Hippocrates, a Galen, from the utter blackness of the Dark Ages and Medieval times there is no spark to illumine, all is darkness, mist and fog of superstition, cruelty, human and animal sacrifice, disgusting rites and cults and still more disgusting and filthy mixtures in the so-called treatment of the sick, maimed and insane. From these times the only faintest ray is Paracelsus, the arch-quack; and then the Renaissance with its re-birth of the Arts and Sciences brings a lamp-like brightness into the indistinct picture. An Ambrose Paré, a Harvey, a Malpighi, a Von Leuwenhoeck. Begins then a clearing, a brighter picture; a light shines somewhat throughout the whole blackness and obscurity, a dawnlike glow is there for 200 years in medical history. This new radiance ushers in the daylight of the 19th century, with names like Viehw, Cohnheim, Claud Bernard, Pavloff, Billroth, Paget, von Helmholtz, Bright, and finally, with a greater burst of brightness, the light of great truths is born with Koch, Pasteur and Lister.

One hundred years ago was born in a little town in France this male infant, what one might call a man child. A radiance should have been visible from the cot of this child, for he was to bring mighty truths not only to medical history but to the whole of humanity.

*Read Before the Orleans Parish Medical Society, December 11th, 1922.

Pasteur then was born and after some thirty years of life he begins to throw a yet more brilliant light upon the world of science. This light of him pierces the gloomy mist of medical knowledge and from his purely scientific laboratory rays of wisdom enter the hospital. The history of medicine is brought up with a jolt from its fanaticisms, its empiricisms, its blood-lettings and barber-surgeons, its blue-mass purgings and no diagnosis into a science based upon facts. This arc-light is Louis Pasteur. He is shown to be perhaps the greatest scientific man of the last century, certainly the most fruitful, the most unerringly successful. It is interesting to know not only who he is but what he was, what he did and how he did it.

You've heard the excellent portrayal of Pasteur's life. I would like to accent some facts from that life that bear upon the man's work.

There happily happened for me what might be called a personal touch with Pasteur, the man. Some years ago I worked at the Institute Pasteur and the Ecole Normale Supérieure in Paris, while on the International Cancer Commission. My work had to do entirely with the classification and life history of certain saccheromyses or torulae, which an Italian, Sanfelice, had found pathogenic in the sense that their injection into the breast of bitches had produced what he called cancer of the breast in the injected animal. While working at the Institut Pasteur I came into close contact with Roux, Metchnikoff and Chamberland, all of whom had been students of Pasteur, especially Roux, who had been a close co-worker with the great man. It was my work that interested these men and brought back memories of Pasteur, since Pasteur's early work on beer and wines had been with the so-called saccheromyses or yeasts of fermentation. Fortunately for me their interest in my work led to an interest in me and I had the good luck to have Roux tell me about Pasteur, the man, while we were visiting his tomb, which, as you may know, is situated in the Institute Pasteur, in the rue Dutot. Also, Roux introduced me to Professor Costantin, who was at that time professor of cryptogamic botany at the Ecole Normale Supérieure. The striking likeness of this man to Pasteur is uncanny, and to see Costantin at work in the very laboratory in which Pasteur had spent so many of his days also at work on the yeasts was a strange experience. M. Costantin told me

too of Pasteur, whom he knew well and from whom he had drawn inspiration for his own work.

It seems that Pasteur was essentially a human type of man, hating illness and disease and dreading contact with pain and suffering, not only in human beings, but even in animals. Roux told me the story of the first trepanning of a dog's skull, when Pasteur was experimenting with the rabies. The story is elaborated by Descour in his life of Pasteur and is also commented upon by his son-in-law, René Villery-Radot. The gist of the matter was that it was only when Pasteur was away from the laboratory that they would dare operate upon the animal, Pasteur being himself so susceptible to pain in living creatures that the operation had to be done in his absence. Upon his return, the first question, "How the poor dog must have suffered!" and Roux says that he himself immediately went to the basement to fetch the dog so that Pasteur might see the animal lively and in good condition. Pasteur said, "I am so glad," and patted the animal.

This human, sensitive side of Pasteur's life has been beautifully dwelt upon by a popular playwright in Paris, Sacha Guitry, who based an interesting play upon the human as well as tragic side of Pasteur. His temerity in the administration of prophylaxis of rabies is the keynote upon which a great dramatic moment is built in the play. It was just a year after the great war that I saw this play, acted by a famous actor, who was the father of the playwright, Lucien Guitry. This artist demonstrated the human tenderness in the character of Pasteur. I was deeply impressed by an emotional scene where Pasteur hesitates to give the injection of rabbit-cord virus against rabies. It was dramatic in the sense of the theatre, and Guitry, the elder, being a great artist, realized how dramatic it was to the world—it was a world drama. This act not only saved one child's life but the lives of thousands since, and will effect and even banish all death by rabies.

It is said that circumstances, opportunity, environment, social and political position often make great men. Certainly this dictum holds not at all in the life and development of Pasteur. It comes as a surprise to most of us to learn that he was not a physician, that he knew nothing whatever of medicine, that he was a chemist. To show what he has done for medicine is a

gigantic task, because what he accomplished in his life was the work of a gigantic intellect, developed by his own innate powers, his deep spiritual faith and love of truth. From the beginning there is no evidence of genius—a mediocre student, a man who never shown from without. His mind worked only in one way, for truth, and it is this marvelous ability to throw aside all theory and speculation, this ability to keep to facts and facts alone that makes for any great man in science.

For instance, to show Pasteur's simplicity: In August, 1881, he was entrusted with the official representation of France at an international Medical Congress which was to be held in London. The Prince of Wales presided at the opening ceremony. When Pasteur entered the big St. James' Hall, and was conducted by one of the committee to the platform, there was great applause mingled with vivas and hurrahs. Pasteur said rather nervously to his son-in-law: "No doubt that is the Prince of Wales arriving. I ought to have come earlier." The President of the Congress, Sir James Paget, replied: "But it is you whom they are all cheering!"

In 1892 the Sorbonne gave a great international reception to celebrate Pasteur's 70th birthday. Many eminent men of all countries were present, among them the great English surgeon, Lister. After a magnificent compliment to Pasteur on his work against Rabies, Lister finally said: "M. Pasteur, infectious diseases constitute, as you know, the greater number of the maladies to which the human race is subject. You can therefore well understand why it is that on this impressive occasion medicine and surgery hasten to bring you the profound homage of their admiration and gratitude."

"This speech provoked an indescribable manifestation of enthusiasm. Pasteur rose to embrace Lister," says Descour. "The sight of these two men clasped in each other's arms seemed a living symbol of the fraternity of science in the alleviation of the sufferings of humanity." It is said that Pasteur was unable to speak in reply to Lister, so overcome was he, and his son read the speech of thanks. Again the simplicity of greatness is evident in this extraordinary, this superlative French scientist.

Twenty years before, Lister had written to Pasteur thanking him for his work on the lactic acid bacillus, and in closing his letter, he said: "Allow me to take this opportunity of thanking

you most heartily for having shown me, by your investigations, the truth of the germ theory of putrefaction, and for having thus acquainted me with the one principle which can lead the antiseptic system to final success. If you should ever come to Edinburgh, you would, I believe, be rewarded by seeing in our hospital how greatly the human race has benefitted by your work. Need I add that it would give me the greatest satisfaction to show you what surgery owes to you?"

Some men have received at birth such magnificent and exceptional gifts that they form only discouraging examples to the rest of mankind. Who would dare to take a Pascal or a Newton as model? Pasteur is more approachable. He was, to begin with, much like the rest of us. His genius, the fruit of clear reasoning and persevering work, enlightens without dazzling us. This makes his history more interesting.

In the rue d'Ulm there is a tablet that I passed daily on my way from my rooms to the laboratory. The tablet is on the little one-story house that was Pasteur's laboratory before he went into the larger one in which Costantin and I worked. Alas! Costantin also is dead. Upon this tablet is inscribed the following:

HERE WAS
THE LABORATORY
OF
PASTEUR.
1857
Fermentations
1860
Spontaneous generation
1865
Diseases of wine and beer
1868
Diseases of silk worms
1881
Virus and vaccines
1885
Prophylaxis against rabies.

We see, surveying the years 1857-1885 what an enormous field Pasteur covered. It was from the study of tartaric acid and paratartaric acid that the development began. A fact existed:

the deflection of light by one and not the other, and only theories *why* were to be found. It was the crystals that differed. This dissymmetry of crystals was a great fact. From this purely chemical fact he developed an inquiry into other more erudite problems that are not for us to go into now, but from his work was evolved the basis of syntheses and hence modern synthetic chemistry. From this study his work led him to fermentations, and their study brought forth the first demonstration as causative factors of what he called microbes—now known as micro-organisms; his work on the disproval of spontaneous generation and on putrefaction brought him to definite bacteria, such as the vibriou septicque, which we now know as the baeillus of malignant oedema. His subsequent study of the diseases of wines and beer and the diseases of silk worms led him to the study of chicken cholera, and it was in this work on chicken cholera that he formulated his greatest achievement, the attenuated vaccine virus. In this seemingly unimportant disease Pasteur made the most wonderful of his discoveries—vaccination; that cultures might be attenuated, and instead of curing the disease it became possible to immunize animals against disease entirely. Indeed, experiments with the viruses of anthrax, chicken cholera and swine measles (rouget des pores) brought out the principle that the pathogenic properties of a virus can be attenuated or heightened by successive passages through the bodies of appropriate animals and led to one of the most luminous thoughts in the history of medicine—that the origin and extinction of infectious disease in the past (syphilis, for instance) may simply be due to the strengthening or weakening of its virus by external conditions.

Roux in speaking of Pasteur's work of the attenuation of virus, said that Pasteur had obtained varieties of virus as a gardener raises varieties of flowers. One of the essential characteristics of virulent diseases is the absence of recurrence. It is exceptional to have small pox, scarlet fever, or typhoid twice. Chicken cholera, which cannot develop twice in the same animal, is therefore a virulent disease against which Pasteur obtained protection by artificial immunization. Roux said that Pasteur must have trembled with joy when he saw his dream of immunization realized.

Later Pasteur was drawn from his work with animals and insects, hogs, chickens, sheep, silk worms, etc., into the actual field of medicine. He was not only admitted as a member of the Académie Française for his work, but was made a member of the medical world of science after having described and discovered the staphylococcus in the pus of boils which he found on the neck of one of his assistants. He called this the "microbe en amas de grains." Also the streptococcus which he discovered in the purulent discharges of the uterus and vagina of women in the maternity wards in the Paris hospitals. This he called the "microbe en chaplets de grains." Roux told me that it was with the greatest disgust and with a shivering almost that he entered the wards to make these smears. Roux writes: "Chamberlain and I assisted him in his studies. It was to the Cochin or to the Maternity Hospital that we most often went, carrying our culture tubes and sterilized pipettes into the wards or to the operating theatre. It is difficult to realize the repulsion that Pasteur had to overcome in order to visit the sick and assist at postmortems. His was such an extreme sensibility that he suffered both mentally and physically in witnessing the pain of others; cut of the bistoury which opened an abscess made him shudder as if he had himself felt it. The sight of a corpse and the melancholy work of autopsy revolted him. How often did we see him obliged to leave the hospital theatre, overcome! But his love of science and thirst for truth were too strong—he came back next day." It is a striking picture of the scientist overcoming his innate loathing for sickness all for the reason that he felt sure the etiologic factor was to be found. If Pasteur had done nothing more in the world than this it would be a lesson for all of us in medicine to overcome our own weaknesses for the sake of truth and light in science.

We must remember that Pasteur was not a physician, and what is more, his greatest work for medicine was all done after a severe illness following apoplexy. Indeed, for the last twenty years of his life he was handicapped by semi-paralysis of his left hand.

By gradual but always logical sequence then Pasteur entered the field of human pathology and in medical meetings his words of wisdom were attentively listened to. Descour writes: "He followed with keen interest the discussion on puerperal septi-

caemia which had begun at the Academy of Medicine. * * * *
 The state of affairs in large towns was very different from that of country towns. About 1850, a mortality was recorded in Paris of one woman in every two hundred newly confined, and the number was ten times larger in hospitals, although attended by doctors of the highest standing; and sometimes terrible epidemics of puerperal fever occurred which made it necessary to close the maternity wards. At the Paris Maternity Hospital one case was lost out of every four confinements.

“The same causes were cited to explain these disasters as were invariably put forward in all epidemics: overcrowding, infection and miasmas. Pasteur could not be satisfied with such trivialties and said so plainly to his colleagues of the Academy.

“He said: ‘In my opinion no such thing exists as a healthy or an epidemic state. The facts hidden beneath the expressions *infected countries, epidemic neighborhoods*, correspond to a varying abundance of germs, and to hygienic conditions, constitutional or otherwise, which are favorable to their development.’
 * * * * ‘I venture to advise all young doctors to read very carefully my studies of silk worms; they will find there the first account of a disease, at the same time hereditary and contagious followed out not only as regards its characteristics and the lesions it causes, but also in the properties and development of living microscopic contagion.’

“Roux has told about the results of his master’s researches: ‘In puerperal infections the pus from the uterus, that in the peritoneum and the blood, contain a micro-organism which has the appearance of strings of beads. This appearance is particularly noticeable in cultures. Pasteur had no hesitation in declaring this microscopic organism to be the commonest cause of infection in women after delivery.

“‘One day, during a discussion on puerperal fever, one of those colleagues whose utterances received the greatest attention was discoursing eloquently on the causes of epidemics in maternity hospitals. Pasteur interrupted him from his seat: “What causes epidemics is nothing of the sort; it is the doctor and his assistants who carry microbes from a sick woman to a healthy one!” And when the speaker answered that he feared that this microbe would never be discovered, Pasteur rushed up to the blackboard and drew the organism in chains, saying, “Look!

that is what it is like!" His conviction was so strong that he could not help expressing it forcibly.

"One cannot today imagine the state of surprise and even stupefaction into which doctors and students were thrown when, with a simplicity and assurance which seems astonishing in one who was entering a maternity hospital for the first time, Pasteur criticised the methods of dressing, and declared that all the materials ought to be sterilized in an oven. Furthermore, he claimed that he could, by examining the lochia, point out those women who would have a rise of temperature, and stated that in a woman heavily infected he could demonstrate the microbe in blood from the finger. Pasteur did what he said he could do. In spite of the tyranny of medical training which controlled original thought at that time, some students were carried away and visited the laboratory to have a closer view of methods which made such accurate diagnosis and such sure prognostication possible.

"Thanks to the methods inspired by Pasteur's work, maternity hospitals are no longer "ante chambers of death," and epidemics of puerperal fever are found there no more'."

Pasteur described not only micro-organism as etiologic factor of infectious disease, but also was the first to explain the mode of entry of the micro-organism, the increase of virulence by passage through various animals and hence the fact of susceptibility and immunity of individuals to specific infections.

It is not my province to go further into Pasteur's life. I was asked to say what he did for medicine and it seems to me that these are the facts that stand forth:

Pasteur is the father of synthetic chemistry and hence the beginning of modern pharmaceutical preparations which are of inestimable therapeutic value to medicine. He is the starting point of microscopic analysis of fluids and hence the originator of the modern clinical laboratory. He is the father of bacteriology—more need not be said to medical men. He is the first to actually sterilize fluids and hence is the father of modern infant feeding (Pasteurization of milk). He is the first to deal with the actual etiologic factor of disease and hence is the father of prophylaxis by vaccines. He brought to medicine the fact of an exact etiology of infectious diseases and with the fact of etiology a new therapeutics; we no longer flounder and

treat symptoms. Attack the etiologic factor and destroy it, the rest is nature's work. More than this, and even greater, is the power to attack the etiologic factor before the illness occurs. Prophylaxis dates from Pasteur—the ounce of prevention being proverbially worth many million pounds of cure. Not only did he save France's industries in one year her whole indemnity that she paid to Germany in 1872, but to humanity the saving of life by prophylaxis is incalculable, indeed the mind is not able to grasp at one thought the enormous value of this one man's work to medical science. And lastly, Pasteur is the man who eradicated the dread disease of rabies or hydrophobia.

Paul Bert, in addressing the National Assembly of the French Government when asking for a pension for Pasteur, said: "Pasteur's discoveries, after shedding new light into the obscure question of fermentation and on the way in which micro-organisms appear, have revolutionized certain branches of industry, agriculture and pathology. One is filled with admiration at the sight of so many different results emerging, by the linking together of facts followed step by step and leaving nothing to hypothesis, from theoretical studies on the way in which tartaric acid deviates polarized light. Never has the famous saying, 'Genius is patience' received such striking confirmation."

No more fitting closing to this slight contribution of admiration for the genius of Pasteur can I find than the words of Sir William Osler in his preface to Vallery-Radot's life of this great Frenchman. Osler says:

"The future belongs to science. More and more she will control the destinies of nations. Already she has them in her crucible and on her balances. In her new mission to humanity she preaches a new gospel. In her nineteenth century renaissance she has had great apostles. Darwin, for example, whose gifts of head and heart were of equal measure; but after re-reading for the third or fourth time the life of Louis Pasteur, I am of the opinion, expressed recently by the anonymous writer of a beautiful tribute to the Spectator, 'that he was the most perfect man who ever entered the kingdom of science'."

PASTEUR'S INFLUENCE ON HYGIENE.*

By W. H. SEEMAN, M.D.

The honor of a place on tonight's program carries with it a sense of inability to do justice to the theme. To attempt to delineate the influence on Hygiene of Louis Pasteur would be an interminable and at best incomplete effort. We feel like pigmies admiring the pyramids or like schoolboys analyzing the descent of man. We can, like them, hope by earnest endeavor to do the best we are able; in this instance to do our duty by rendering our full homage at the shrine of the patient genius, whose humility was so pure and noble, that it has become a magnificent light shining through the century, and rendering more scintillating and brilliant the accomplishments of the most substantial crystal gazer that the world has ever known.

Pasteur, educated first at the "Ecole Primaire," attached to the college at Arbois, had no particular incentive to his great ambition for study and mental advancement. It would seem, however, that his serious minded attention to Dr. Dumont and Bousson de Mairet, both honored and frequent visitors at his father's home, did much, in addition to his father's ribbon of the Legion, to kindle the spark and fan the flame of the budding genius. This flame, it may be said, though steady, did not in its early stages show much brightness and it is to the careful shielding and encouragement given by Romagnet, his teacher, that the world owes thanks for the brilliant sun which finally burst forth, and which continues to illuminate and warm the path of science.

You have heard how Pasteur's ambition to be educated at the Ecole Normale, at Paris, was first delayed by various causes, interrupted by home sickness, and, finally, achieved by dogged perseverance; how his marked faculty for observation and research was first demonstrated in the preparation of phosphorus from bone ash and later in the crystal study of tartaric acid and the tartrates.

Following his communications on fermentation in 1857-1858, the first real influence exerted by Pasteur on the science of Hygiene was brought about, by his studies on Spontaneous Generation. The Cardinal Polignac, Father Needham, the Abbé Spallanzini and even Voltaire had been embroiled in an active,

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and even heated, discussion of this subject. Apropos of this subject in 1858, M. Pouchet, the director of the Natural History Museum at Rouen, sent to the Academy a "Note on Vegetable and Animal Proto-organisms, spontaneously generated in Artificial Air and in Oxygen Gas." In it, he maintained the doctrine of Spontaneous Generation. This communication came into the hands of Pasteur and resulted finally in his demonstration that germs exist in the air, that if they are excluded, even in the most putrescible liquids, no putrefaction takes place.

After several years of study and polemical communications with his adversaries, at the Sorbonne in April, 1864, Pasteur delivered his famous lecture before a large and most representative audience, when he put the final crushing blow on the theory of spontaneous generation, leaving only a few scattered fragments to be brushed away.

After describing his experiments, by which sterilized liquids, kept from the contaminating influence of atmospheric germs, had failed to show evidences of life, whereas the controls showed bacterial growth, as usual, he delivered this powerful peroration: "And, therefore, gentlemen, I could point to that liquid and say to you, I have taken my drop of water from the immensity of creation, and I have taken it full of the elements appropriated to the development of inferior beings. And I wait, I watch, I question it, begging it to recommence for me the beautiful spectacle of the first creation. But it is dumb, dumb since these experiments were begun several years ago; it is dumb, because I kept it from the only thing man cannot produce, from the germs which float in the air, from life, for life is a germ and a germ is life. Never will the doctrine of spontaneous generation recover from the mortal blow of this simple experiment."

Most of us associate the term Pasteurization with the method of ridding milk of much of its bacterial content by exposing the milk to a temperature of 60°-70° C. for a period of minutes, up to 45, depending on the temperature. It is interesting to note that this method is the direct outgrowth and result of the next work which Pasteur undertook, the heating of wines for a few moments at 50°-60° C. to prevent their spoiling later. The spoiling of course, was due to entrance of atmospheric germs, and Pasteur's discovery made possible the storage and shipment of wines, which, before, had been much interfered with.

Just after Pasteur's election as an associate of the Academy of Medicine, he was called upon to discuss the work of Davaine on Anthrax, a work which was much attacked by certain doctors, who answered the experimental proof with oratorical arguments. Pasteur, in the course of his discussion, made this emphatic statement, "The correlation is certain, indisputable, between the disease and the presence of organisms."

Pasteur was much interested in the prevention of pyogenic infections and to his influence Guerin's use of cotton wool dressings is due. Pasteur, later, on one of his visits, suggested the heating to a very high temperature the cotton wool dressings. To these teachings are due, largely, the evolution of our modern facilities for producing sterile dressings, culture media, liquids, utensils, etc.

The work of Pasteur on the diseases of silk worms, Pebrine and Flachery, and his methods of separating diseased from healthy "seeds," before planting, constitute a brilliant chapter, and a long one, in the life of the scientist, and marked a memorable milestone on the road of progress which has resulted in many valuable agricultural and entomological studies. Incidentally, he discovered, in his studies of Flachery, the presence of spores and determined their superior resistance to destruction and their power to reproduce after a prolonged time.

In his work on chicken cholera the first demonstration of the possibility of attenuating cultures, so that any number of grades of virulence could be produced, took place—and vaccination with artificial test tube culture material, which was capable, on injection, of producing immunity. The term vaccination previously had been used only in connection with small pox vaccination. In his address before the International Medical Congress, in London, August 8th, 1881, Pasteur said he had extended the comprehension of the term vaccination in the hope that science would continue it, as an expression of homage to the great Englishman, Jenner.

The attenuation method was extended to the subject of anthrax, with equally brilliant results, and for forty-one years Charbon vaccine has been of immeasurable benefit to the world; later, similar work was done with rouget or swine erysipelas.

The monumental work which makes Pasteur's name a familiar and respected one through all the world occupied five years,

from the end of 1880 to the middle of 1885. I refer to his work on Rabies. The story of the investigations first with the saliva of rabid dogs and humans, and, later, with the substance of the medulla, the latter of which produced successful experiments, constitutes a romance full of zeal and heroism, well worth recital, if the time would permit. Suffice it to say, that by transference of the virus, from animal to animal, a virus of fixed virulence was obtained, greater, in its potency, than that obtained from the street dogs. This virus subjected to drying in air, in the presence of caustic potash, gradually lost its virulence until, as Pasteur expressed it, at the end of fourteen days, it had become extinguished. He next showed that with dogs inoculated with this material, in doses of gradually increasing virulence, it was possible to reach the point where fixed virus, freshly removed, could be injected, without harm, and the animals would remain protected against rabies.

The first human inoculation after many successful animal experiments was in a little Alsatian boy, whose name has almost become immortal on this account, Joseph Meister. Pasteur after consultation with Vulpian and Grancher, his friends and advisors, proceeded to give the child the set of injections with perfect results. Following this favorable experiment, the patients flocked from everywhere for treatment and the results were almost uniformly favorable, with the result, that since that time thousands have been treated and Pasteur Institutes have multiplied until there are probably over one hundred in the world.

I have endeavored to hastily recall in the limited time allowed the major subjects of the works of Pasteur which have influenced the progress of Hygiene. The work on puerperal septicemia and surgical infection, or hospital miasma, as it was called was of great importance and its influence on hygiene have also been tremendous.

To sum up the influence of Pasteur on Hygiene is a task impossible of accomplishment, for it still goes on. Pasteur's discoveries were great but they were small compared to the establishment of the Pasteur system of discovery. He taught us how to study. Commonplace laboratory procedures of today which are received with indifferent obviousness, are largely the fruits of the labors of Pasteur and his contemporaries and their fol-

lowers. The specific treatment of diseases, the specific vaccinations against disease, the increased knowledge of the pathology of many diseases are to a great extent the result of the work of the Pasteurian school.

It must not be believed that all this fruit of science was gathered without labor and strife. Sickness and misfortune, privations and disappointments, turbulent storms of criticism and opposition punctuated Pasteur's eventful life—and with it all, he remained patient, firm and steadfast, actuated by pure love of science, as he pleaded in an address at Milan, where he expressed his code of action and ideals.

“Let us, he said, therefore strive in the pacific field of science for the pre-eminence of our several countries. Let us strive, for strife is effort, strife is life when progress is its goal.

“He, above the rest,
In shape and gesture proudly eminent,
Stood like a tower.”

***PASTEUR'S CONTRIBUTIONS TO CHEMISTRY.**

By HAL WALTERS MOSELY.

We have met on this the one hundredth anniversary of the birth of Louis Pasteur to do honor to one whose achievements exerted a most remarkable influence not only on the science of chemistry, about which I am to speak tonight, but also had its effect in a most remarkable way upon many departments of practical life, particularly in laying a solid foundation of modern medicine.

Pasteur was a trained chemist, and it can be said without contradiction that his success in other scientific fields was due to his careful chemical training. Other sciences up to his time had dealt with superficial description and empty nomenclature largely, and it was Pasteur who brought to them the exact experimental methods and close reasoning of the chemist. Pasteur was an ingenious experimentalist but, unlike many experimenters, he was also possessed of a keen logical mind and an exceptional and vivid imagination. His penetrating insight into the unknown was, among all his fine qualities, probably the most significant. Experiment almost without fail proved his theories.

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Even to this very day, twenty-seven years after his death, very little of Pasteur's work requires revision—a unique record.

Louis Pasteur was born December 27th, 1822, at Dole. Two years afterwards his parents moved to Arbois, where he passed his childhood. He began serious preparation for life at the College of Arbois. This institution, however, proved unsatisfactory to the young student because of the absence of a chair of philosophy. It was in the College of Besancon that he met and studied with M. Darlay, whom he often much embarrassed with pointed questions which the teacher was unequal to answering. After graduating from Besancon he was ambitious for further study and determined to prepare for the Ecole Normale at Paris. This proved a wise choice for the young man, for here he came under the influence of Balard, the discoverer of bromine, and Dumas, the renowned chemist, who was then lecturing at the Sorbonne. Under Balard's instruction he made such decided progress in chemistry that upon graduating he was appointed an assistant to Balard. The Ecole furnished him another inspirational instructor in the person of Delafosse, the eminent crystallographer.

Following his student days he held several important appointments. He was first called to Strassburg and later to Lille as professor of chemistry and Dean of the Faculty of Sciences. It was here that his real study of fermentation began. From this time on, 1854, Pasteur turned his attention more and more from the field of pure chemistry to that of applied chemistry—fermentation studies and biological problems of a chemical nature.

It is perfectly evident from this brief account of the early history of the man that his great interest was in chemistry and its applications. What wonder is it that Pasteur should be considered first of all a chemist! His enthusiasm for chemistry is indicated in a letter to his friend, Chappuis, in which he says: "Why are you not a professor of chemistry or physics? We should work together, and in ten years' time we would revolutionize chemistry. There are wonders hidden in crystallization, and, through it, the innermost construction of substance will one day be revealed. If you come to Strassburg, you *shall* become a chemist; I shall talk to you of nothing but crystals."

INTEREST IN CRYSTALS.

While a student at the Ecole Normale Pasteur had been much impressed by his teacher, M. Delafosse, whose interest in crystal

forms created in the young student such a profound spirit of investigation that upon the first opportunity he set out to repeat in great detail the work of M. de la Provostaye on the crystalline form of the tartrates. What a significant choice! Almost no other field would have proved so fruitful to the youthful investigator. Here it was that his successes began.

CRYSTAL STUDIES BEFORE PASTEUR.

In order to view Pasteur's work in its setting it is necessary to briefly review the work of his predecessors and contemporaries. Very early in the study of crystal form Haüy had introduced the idea that the geometrical form of the crystal was the result of simply piling up "integral crystal molecules" one upon the other, and that the outward crystal form was governed by the form of the single "integral crystal" out of which the whole was built. In other words, geometrical regularity was an evidence of physical and chemical regularity.

This general notion was advanced by the introduction of the principle of isomorphism of Mitscherlich. In this principle we have the notion that chemical molecules of isomorphous substances are of the same type, which was an attempt again to relate crystal form with the constitution of the molecule, a relation more clearly expressed than the work of Haüy permitted.

M. Delafosse, whose pupil Pasteur became, added to the study the conception of irregularity among crystals and showed that the beautiful laws of form of Haüy were not always followed. While his work offered no real advance in clearing up the difficulties of crystalline form, yet it emphasized to the mind the fact that the form of the "integral molecule" of the crystal is not so closely bound up with the crystal-itself as Haüy had taught.

Double refraction of crystals was known to Newton and Huygens, and the phenomenon of polarization of light by crystals was discovered by Malus in 1808. Arago and Biot, pupils of Malus, extended the work of their master, and in 1815 Biot made the significant discovery that natural organic substances such as sugar, camphor, tartaric acid, oil of turpentine, etc., possess the power of rotating the plane of polarized light either when the substances are liquid or are in solution. As a result of his studies Biot pointed out the rather significant fact that these substances even after having lost their crystalline form were optically active, while other substances known to be optically active

as crystals completely lost the property when the crystal was destroyed. As a conclusion of this discovery he pointed out the fact that rotatory power in organic substance must be due to the structure still remaining, namely, the molecule itself. As this discussion proceeds one will readily see how significant Biot's observation was. It forced the physical phenomenon of polarization into the very face of the chemist who now *must* take cognizance of it.

About this time Biot communicated to the Academy of Sciences a note by Mitscherlich wherein was contained the extremely interesting fact that the paratartrate and the tartrate of soda and ammonia were exactly alike in all physical properties save in the fact that the paratartrate exhibited no rotation to polarized light while the tartrate was active.

There can be no question that the work of Biot and this interesting observation of Mitscherlich were the deciding factors in causing Pasteur to undertake his first piece of independent research—the crystal structure of the tartrates.

PASTEUR AND THE TARTRATES.

At the outset a very striking thing occurred. On the tartrate crystals Pasteur found small facets which had not been described before. Even the careful Delafosse had overlooked these slight irregularities in crystal form. But what of these facets? Why were they of any importance? It was in this fact: namely, that quartz crystals had been shown by Haüy to have right and left-handed facets, and that the position of the facets according to Sir John Herschel, determined the nature of the rotation. Only a step now for the enthusiastic Pasteur. Rotatory effect was due to the crystalline form. As he continued the work he found hemihedral facets, as these facets were called, on all the 19 different tartrates examined. The further fact was shown that these tartrates gave optical rotation coinciding with their hemihedrism. "This correlation related them to quartz but had a deeper meaning, for here it could be no longer a question of the arrangement of the molecules in the crystals, but of arrangement of the atoms in the molecule." Pasteur was too well taught by Delafosse not to have laid strong hold upon this discovery of new facets on crystals whose solutions were active as a confirmation of the idea of a fundamental connection between hemihedrism and rotatory power.

THE PARATARTRATES.

Recalling the observation of Mitscherlich on the difference between the paratartrates and the tartrates of soda and ammonia in regard to optical rotation, Pasteur naturally examined the paratartrate in some detail. Here he found the same facets, but much to his surprise they occurred differently placed on some of the crystals; for some were turned toward the left, others toward the right. What could have been more natural for Pasteur than to separate these one from the other and test their solutions polarimetrically? A dramatic situation resulted. The left-handed crystals produced left-handed rotation and the right-handed were rotatory to the right. He had thus succeeded in resolving paratartronic acid into active enantiomorphs. These results were so startling that no one believed them. When they were communicated to Biot he refused to accept them until the experiments were performed under his direction and before his eyes. This Pasteur agreed to and his experiments were again successful. Biot was so moved by the result that he took the young investigator by the arm and said: "My dear child, I have loved science so much throughout my life that this makes my heart throb."

Instead of two tartaric acids there were now three. The dextro-acid, the hitherto unknown levo-acid, and the racemic acid. It was further found that when concentrated solutions of the dextro- and levo-acid were mixed in equal proportions there was an evolution of heat, and the crystals produced were identical with the original racemic form and also identical with those crystals produced at the factory of Thann, where they were first discovered and thought to be oxalic acid.

Pasteur was always given to co-ordinating and summarizing his work. Said he: (1) "When the elementary atoms of organic products are grouped asymmetrically, the crystalline form of the substance manifests the molecular asymmetry in non-superposable hemihedry. The cause of hemihedry is thus recognized. (2) The existence of the same molecular asymmetry betrays itself, in addition by the optical rotatory property. The cause of rotatory polarization is likewise determined. (3) When the non-superposable molecular asymmetry is realized in opposite senses, as happened in the right and left tartaric acids and all their derivatives, the chemical properties of these identical and inverse substances are rigorously the same."

The following statement coupled with the above may be said to form the very foundation of stereochemistry: "All bodies fall into two great classes, bodies with superposable images and bodies with non-superposable images,—bodies with asymmetric atomic arrangement and those with homohedral atomic arrangement."

RESOLUTION OF RACEMOIDS.

Having found that paratartaric acid was resolvable into active forms it was only natural for Pasteur to inquire whether other methods than the mechanical separation of right and left crystals might not be employed? Three other highly significant methods were developed. First, separation by crystallization; second, separation by the use of a suitable ferment; third, separation by the use of other optically active bodies.

The first method consisted in the production of crystallization from a saturated solution by seeding out the solution with crystals whose form the precipitate should take. This method has proved successful in resolving lactic acid into active forms (Purdie, *Trans. L. C. S.*, 1893, 63), and Emile Fischer used it in resolving d-1-gluconic lactones into active forms (*Ber.* 1892, 25).

Pasteur came upon the second method as a result of his observation that under certain conditions tartrate solutions fermented. Why not try the effect of the fermentation on the racemic acid? thought he. Interestingly enough he found that certain ferments, particularly *Penicillium glaucum*, when allowed to grow in the racemate solution destroyed the dextro isomer and left the levo-isomer unattacked. This biochemical method has proved of inestimable value in the separation of isomerides. Many different organisms have been employed upon a large number of substances with great success.

The third method developed has proved its usefulness in many important directions, particularly in Emile Fischer's work on the synthesis of the sugars, and in Ladenburg's work on the synthesis of the natural alkaloids. It was found that when certain optically active substances, e. g., (1) quinine, strychnine, brucine, (2) cinchonine, cinchonidine, morphine, etc., were brought into solution with the racemic form of the substance there were produced compounds with the alkaloids of sufficiently different solubility to result in a complete separation by crystallization. After precipitation of the dextro or levo form the

active form was recovered by the destruction of the alkaloid. This method has proved singularly significant in many very important syntheses.

TRANSFORMATION OF TARTARIC ACIDS.

Upon heating dextro-tartaric acid either with water or in the form of its cinchonine salt he found that the dextro acid was partially transformed into the levo acid some racemic acid, and most important of all, into an inactive tartaric acid which was not resolvable into racemoids by any method. In this he discovered a fourth kind of acid which is now familiarly called meso-tartaric acid. The significance of this discovery is made apparent by merely mentioning the fact that E. Fischer applied it in his sugar researches with brilliant success.

MALIC AND ASPARTIC ACIDS.

Pasteur did not confine himself alone to the optical properties of the tartaric acids but directed his attention toward other active substances, e. g., malic acid and its derivatives, and aspartic acid. Though not as successful in this field as he had been with the tartaric acids, some rather instructive disclosures were made in spite of the difficulties. M. Dessaignes was reported to have prepared aspartic acid by heating the ammonium salt of fumaric and maleic acids. Such a preparation as this was of course impossible to Pasteur. He was too firmly grounded in the notion that molecular asymmetry manifested in the optical rotation of substances was produced only by vital agencies to have accepted an aspartic acid from any other than the natural source. Upon careful study he proved that the product while identical in other respects with the natural acid was in truth inactive. He then converted the new aspartic acid into malic acid by the method of Piria and likewise proved this acid to be inactive. This proved to him the possibility of a fourth form of malic acid which was not racemic, neither dextro nor levo but, as he expressed it, "an asymmetric body so twisted that it becomes superposable on its mirror image." Of course Pasteur was wrong in assuming a fourth class here, still the idea of a possible fourth form due to some sort of internal compensation was a most important addition to the general theory of asymmetric compounds. So sure was he of the fourth type of substances that he assumed it for all asymmetric compounds, but of course he was in error, for we know that only those sub-

stances whose molecules can be divided into symmetrical halves by a suitable stereometric arrangement of the groups yield a possible fourth form.

FERMENTATION STUDIES.

When Pasteur began his study of alcoholic fermentation it was the generally accepted belief that such a process was the result of dead yeast undergoing "post-mortem decomposition." Such a conception could have no place with Pasteur for he had seen how asymmetric bodies were formed by vital processes and that fermentations were often associated with asymmetric bodies. Fermentation, therefore, must be the result of a vital process and not of the putrescence of a decaying body. He proved his point, as we so well know now. In this connection we owe to Pasteur the honor of being the first to attack scientifically those problems in which both the chemical and biological aspects received their due share of consideration. He bridged the gulf between chemistry and biology, and made progress because he recognized the value of chemistry in the solution of biological problems. It was during his fermentation studies that he made the discovery of the possibility of life without airanaerobic life.

Following the studies on alcoholic fermentation he began to make investigations on the vinegar process. He showed that the conversion of wine into vinegar is the work of a rod-like organism, which he called *mycoderma aceti*, and that in order for the process to be successful the mode of life of the organism must be understood. So thoroughly did he work out the details of acetic fermentation that he proved a great benefactor to the vinegar industries and in so doing convinced his opponents of the correctness of his views.

CONCLUSION.

Louis Pasteur, the French chemist, has become the heritage of the scientific world and his work is his greatest monument. What more glorious and enduring monument could a scientist leave to commemorate his name than Pasteur has left: the foundation of the science of stereochemistry on which our modern organic chemistry rests, the groundwork of fermentation processes so important industrially today, the basis of modern bacteriology and pathology, the cornerstone of modern surgery, the veritable keystone to the arch of immunity from disease! Hu-

manity owes more than it can ever repay to this matchless man of intense passion and tremendous enthusiasm for constructive scientific research.

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*THE INFLUENCE OF PASTEUR ON OBSTETRICS AND GYNECOLOGY.

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Obstetrics, like the poor, we have had always with us, but gynecology is, relatively speaking, a new specialty. The development of the latter and of the surgical aspects of the former were made possible by the advent of antiseptis, succeeded in turn by asepsis. Anesthesia has, of course, contributed tremendously to this advancement.

Previous to the labors of Pasteur and of Lister, operative obstetrics had been limited almost exclusively to vaginal procedures. Abdominal Caesarean section, for example, was performed as a last resort on the most desperate cases, and the majority of the women died of infection or of hemorrhage, the lowest recorded mortality rate being 52.5% (Newell). Budin (quoted by Newell) stated that not a single successful abdominal Caesarean section was performed in Paris between the years 1787 and 1876. Harris, in 1878, stated that the patient's chances were better when she operated upon herself or when the uterus was ripped open by the horn of a bull than when she was operated upon by a surgeon. He collected nine such cases, with five

cures, while during the same period eleven Caesarean sections were performed in New York City, with only one recovery. Parenthetically, we may note that Dr. Prevost, of Donaldsonville, La., reported four sections in the early thirties, with three mothers recovering. Other major obstetrical procedures, such as symphysiotomy, also fell into disrepute due to the bad results obtained.

It is well known that the mortality and morbidity rates due to puerperal infection in non-operative cases were high in pre-antiseptic days, and it was often necessary to close maternity wards for weeks in order to eradicate the infection. In 1842, the mortality in Vienna varied from 18 to 31% (DeLee). Many observers had suggested the contagiousness of puerperal fever, even as far back as Levret, of Paris, who, in 1770, inquired whether contagion could not be carried in the blood decomposing in the meshes of the leather used to cover Smellie's forceps. In 1843, Oliver Wendell Holmes read a paper on "The Contagiousness of Puerperal Fever," inspired by the death of a physician from septicemia, which was due to accidental inoculation during an autopsy. He proved his point, but was violently opposed, notably by the obstetricians, Meigs and Hodge, and it does not appear that he was sufficiently pugnacious to push the matter to its final conclusion. He did, however, publish another paper along the same lines in 1855.

But Semmelweis, of Vienna, conceived the same idea independently, and doggedly kept up the agitation which he started in 1847. The obstetrical clinic with which he was connected had two divisions in its indoor service, one for the instruction of midwives, in which the mortality from puerperal sepsis was 2.7%, and one for the training of medical students, with a mortality from infection of 11.4%. The midwives taunted the students regarding this notorious discrepancy, and the patients would beg to be allowed to go home, when they learned that they had been assigned to the doctors' clinic. Semmelweis studied the problem from many angles, noting among other things, that very few patients delivered at home or in non-teaching maternity hospitals died of infection. He also observed that the students would assist at autopsies, and would then go to the maternity wards to examine and deliver patients. His friend, Prof. Kolletsehka, died of infection due to a wound sustained at autop-

sy on a case of puerperal fever, and the necropsy on this friend revealed lesions practically identical with those found in patients dying of puerperal infection. These facts gave him the key, and he reasoned that the hands carried particles of decomposed matter from the cadavers to the obstetrical cases. He instituted the washing of hands and the cleaning of finger nails before delivery, using a chlorine preparation, and in 1848 the mortality from infection in the doctors' clinic fell to 1.27%. Semmelweiss also noted that pus from infected puerperal women was fatal to puerperal animals. He claimed that the infectious material could be planted in the genitalia by anything, *e. g.*, hands, instruments, etc., which came in contact with the organs, and that the same thing occurred in surgical cases. The surgeons, as well as his other confreres, however, did not accept his teachings, and it was only after Pasteur had begun his bacteriological researches, and the results had been applied to surgery by Lister, that the value of the pioneer work of Semmelweiss was recognized.

Turning to gynecology, we find that, aside from the occasional exploit of a daring pioneer, such as Ephriam McDowell, practically no gynecological operations were performed in pre-antiseptic days, except the infrequent tapping of an ovarian cyst. Sims, of course, is recognized as the father of gynecology; his fame was based first of all upon his work on vesico-vaginal fistula, and was later amplified and magnified by his abdominal work. How recent has been the development of this specialty is attested by the fact that Sims found it worth while to write an epoch-making paper on "The Careful Aseptic Invasion of the Peritoneal Cavity for the Arrest of Hemorrhage, the Suture of Intestinal Wounds, and the Cleaning of the Peritoneal Cavity, and for All Intraperitoneal Conditions" in 1881, two years prior to his death. He was followed by his great pupil, Emmett, and by a host of others too numerous to mention, who first devoted themselves almost exclusively to plastic work. The later disciples, however, due to the growing safety of abdominal invasion, have gone aside more and more into this field, so much so that Dudley, in his presidential address before the American Gynecological Society in 1905, felt impelled to call his confreres back to the field of work in which the gynecologist is pre-eminent, namely, plastic surgery on the external genitalia.

But what has all this to do with Pasteur? As has been related by the previous speakers, Pasteur's work on the fermentation of wine and his studies of the disease of silkworms called the "pébrine," laid the foundation for the development of modern bacteriology. This development, of course, was brought about in no small degree by Pasteur's further work on the communicable diseases of the higher animals, and his identification and cultivation of the specific micro-organism of each. Reasoning from his studies on fermentation Pasteur concluded that wound infection was due to contamination from micro-organisms contained in the air. Lister, who had given much thought to this problem of wound infection, eagerly adopted Pasteur's views, and began the use of his famous carbolic acid spray while operating, and also employed an occlusive carbolic acid paste for the treatment of compound fractures. Antisepsis, and later asepsis, rapidly developed, and upon these have depended practically all the advances made in surgery and the allied branches of medicine since that day.

Obstetrics and gynecology, being essentially surgical, have naturally developed to their present high plane due to this fundamental work of Pasteur. We no longer regard puerperal infection as a mystery, but know it to be wound infection, practically always introduced from without, and its prevention is accomplished by the employment of the methods originally advocated by Semmelweis. He had the right idea, but the final elucidation of the cause of the infection was arrived at only after Pasteur's painstaking researches. We have learned how to invade the pelvic cavity from above, as well as how *not* to invade it at times, realizing that the pelvic peritoneum has wonderful powers of self-protection, as exemplified by its reaction to, and its walling off of, infection.

To the appreciation of these facts countless women owe their lives, and thus it will be for countless years in the future. Little did Pasteur dream of the results of his work, as he labored over the diseases of wine and beer, over the maladies of the silkworm, and troubled his soul with the mysteries of chicken cholera!

***A SAFE AND PRACTICAL METHOD OF ADMINISTERING SCOPOLAMIN-MORPHIN ANESTHESIA IN OBSTETRICS.**

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In the past fifteen years a voluminous literature has been put out dealing with the special and peculiar action of scopolamin-morphin anesthesia in producing amnesia and analgesia. The Freiburg method of administration has been so extensively published that when scopolamin-morphin is used in obstetrics, it is taken for granted that this method is the one employed. In spite of this publicity, up to the present time, no degree of popularity can be claimed for scopolamin-morphin anesthesia. On the contrary, it seems to have attracted attention only to have increased prejudice against it. An explanation for this attitude may be that the report of those who have given this anesthetic a trial were based on too small a number of cases, often less than 100 and that no method has been used other than that of Koenig and Gauss, a method known to require special and great attention and skill on the part of the obstetrician.

For fear of being misunderstood, let it be said at the onset that the concern of this paper is not to discredit the work of the great Freiburg obstetrician, nor to compare the amnesic or analgesic properties of scopolamin with other anesthetics. The sole purpose of this report is to draw the attention of the members of the obstetrical profession to a method for administering scopolamin-morphin anesthesia which has stood a successful eight years' trial, to present statistical evidence of its safety for both the mother and the baby, and to show the practicability of its administration.

This method, which may be called that of a fixed dosage may be formulated under three heads: Putting the patient under anesthesia, keeping the patient under anesthesia, management of the patient at the time of delivery.

Putting the patient under anesthesia is accomplished by administering at half-hour intervals three 1/100th grain doses of scopolamin hydrobromate hypodermically, one-eighth grain of morphin being given with the first dose only.

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The patient is kept under the anesthetic by continuing to give 1/100 grain of scopolamin hydrobromate every two hours until delivery is complete.

The patient is managed during delivery by securing the knees in a Bierhalder leg holder, provided with leather straps so arranged that two straps may be securely fastened above and two below the knee. Leather restraint cuffs are applied to the wrists and are secured by strong bandages to the posts at the head of the bed, allowing sufficient length for all movements except extension below the waist-line, thus preventing any possibility of contaminating or disarranging the sterile dressings.

This method of fixed dosage grew out of and was based on certain observations found by experience to be common to the majority of patients.

First, when patients are questioned after delivery as to the number of hypodermic injections they have had, 75 per cent will give as an answer two, the other 25 per cent will give as an answer three. Those who replied two are the ones who are more than those who replied three are the ones who are less susceptible to the scopolamin-morphin anesthesia. It is not possible, however, and also of no practical importance to ascertain this knowledge before the anesthesia is started. Therefore, all pregnant patients are given the three initial doses in order to produce with certainty the desired state of anesthesia.

Second, if repeated doses of scopolamin hydrobromate are administered to a patient without an accompanying dose of morphin with the first dose of scopolamin, the patient will suffer with terrible delusions and hallucinations of ridicule from those around her, of brutal abuse from hideous-appearing men, or from being covered with bugs of various kinds. The administration of $\frac{1}{8}$ grain of morphin with this first dose of scopolamin is sufficient to prevent these hallucinations. A larger dose of morphin is not necessary, nor is it necessary or advisable to repeat the morphin during the anesthesia.

Third, the action of scopolamin is relatively evanescent, one to four hours sufficing in all cases for the patient to regain her normal state if the drug is discontinued. Patients with rapid elimination, especially those who have been having baths or other eliminating treatment, may regain the normal state in an hour after the drug has been administered. Patients who are

toxic or who eliminate slowly may not regain the normal state for four hours. Ninety per cent of patients, however, will eliminate the scopolamin in about three hours, so that perfect analgesia and amnesia may be maintained for any reasonable length of time by repeating the dose of scopolamin every two hours after the patient is once under the anesthetic.

Fourth, efficient and harmless restraint at the time of delivery makes it possible and practical for a physician, single-handed, to manage any delivery without interference with the aseptic technic. After a large experience with scopolamin-morphin anesthesia, this becomes of less, but by no means of no importance.

Long labors or complications due to abnormality require special experience, not only for the conduct of the labor, but for the management of the anesthetic as well. Some suggestions may be given as aids to the safe conduct of the anesthetic. (a) Do not feed the patient while under the scopolamin-morphin anesthesia, because she will usually retain nothing except water. (b) Do not allow her to have visitors or any attention while the first three doses are being given, but secure as much quiet and darkness as possible. After the first three doses, noise and light do not seem to annoy the patient. (c) If the scopolamin is given as soon as labor begins, the patient will go to sleep and sleep soundly until the cervix is one-half dilated, from which time on to delivery, she becomes more easily aroused and occasionally seems quite wakeful or even excited. (d) If the scopolamin is not given until the patient is quite advanced in labor, or if the labor is ushered in with especially vigorous and painful contractions, nitrous oxide gas given during pains for fifteen or thirty minutes, will bring the patient more quickly under the anesthesia. (e) When the presenting part is passing through the cervix or over the perineum, there is a tendency for the patient to regain the normal state before the two-hour period of scopolamin administration arrives. To prevent this and avoid a break in the anesthesia, the dose of scopolamin may be advanced at that particular time so that the interval will not be more than one or one and a half hours between doses instead of the prescribed two-hour interval. (f) Ether and chloroform should not be given for the delivery of the head, nor for the application of forceps. Forceps can be readily adjusted without

the patient's knowledge and the assistance given by the contracted uterus renders the forceps more effective and less injurious to the mother. To introduce sutures for repair, ether or chloroform may or may not be given, according to the severity of the trauma. If the repair is to be extensive, it is advisable to give chloroform and ether, but if the injury is slight, one or two sutures may be inserted without further anesthesia. If version is to be performed, the patient must be thoroughly under the ether or chloroform to secure complete relaxation. (g) Rupture of the membranes in multipara and the appearance of the head at the vulva in primipara is the signal for putting the patient up in the stirrups and applying the restraint cuffs in preparation for delivery. (h) If the patient is restless, be sure that she does not desire to empty the bladder, or that she is not thirsty. The majority of patients will voluntarily urinate, and may drink freely of water, if they desire. (i) The ideal surroundings for the patient under scopolamin is in a small room with large transom-like windows and a door or doors that fasten outside of the patient's room and no furniture in the room beyond the bed and a chair or commode. Where this cannot be provided, the patient may be kept in a bed with canvas screens at the ends and sides to make a pseudo-restraint bed for her. If these are not available, some person must sit or work within sight of the patient to prevent her from wandering from the room in search of the toilet or drink of water. (j) In case the patient should become very unmanageable the scopolamin may be discontinued and in two hours from her last dose she will cease to be disturbed. (k) Allow the patient the greatest freedom until ready to be delivered and do not suggest that she shall or shall not bear down as she will do so voluntarily when the head reaches the perineum.

The safety of this method of administering scopolamin-morphin anesthesia can best be demonstrated by the results obtained in a series of 2,023 deliveries conducted at the Mary Thompson, Frances Willard and Mercy Hospitals between June, 1914, and September, 1920. In the 2,023 deliveries there were 48 stillbirths in full-term pregnancies, or 2.3 per cent. Of the premature births, there were 40 or 2 per cent. There were 3 maternal deaths or .1 of 1 per cent. An analysis of the 48 stillbirths shows macerated 9, or 19 per cent; monsters or deformed

children 5 or 10 per cent; cord anomalies, including prolapsed cord, 8 or 17 per cent; disproportion between pelvis and child's head, 13 or 27 per cent; embryotomy for impacted transverse, 1 or 2 per cent; breech delivery, 3 or 6 per cent; eclampsia or flu in mother, 3 or 6 per cent; cause not assigned, 2 or 4 per cent. The length of labor under the scopolamin-morphin anesthesia can be gauged by the length of the anesthesia, inasmuch as the first dose was always given as soon as possible after the labor started and was continued until delivery was complete. Of 727 multipara, 49 per cent had not more than 3 doses of scopolamin-morphin, or an anesthesia less than 3 hours; 40 per cent had not more than 6 doses or an anesthesia less than 8 hours; 7 per cent had not more than 9 doses, or an anesthesia less than 14 hours, leaving only 4 per cent for an anesthesia over 14 hours. Of 877 primipara, 23.5 per cent had not more than 3 doses of scopolamin-morphin, or an anesthesia less than 3 hours; 45 per cent had not more than 6 doses or an anesthesia less than 8 hours; 20 per cent had not more than 9 doses or an anesthesia less than 14 hours, leaving 11.5 per cent having an anesthesia over 14 hours. Eighteen hours being taken as an average length of labor for a primipara and 9 hours for a multipara, it cannot be said that scopolamin-morphin tends to lengthen labor.

The asphyxiated or blue baby was observed and required resuscitation in 53 cases, 3 in primipara and 23 in multipara. Twenty-nine were in babies whose mothers had not had more than four doses of scopolamin-morphin. Twenty were in babies whose mothers had had not more than 8 doses; 4 were in mothers who had had not more than 12 doses, and 1 in a baby whose mother had had 15 doses. Of special interest in this connection is the excellent condition of the 20 babies whose mothers had been given more than 15 doses, that is, doses ranging in number from 16 to 31. Of these, no baby required any resuscitation.

In the multipara, low forceps were used 17 times; mid forceps 5 times, and high forceps 3 times. In the primipara, low forceps were used 98 times; mid-forceps 38, and high forceps 21. In 1544 cases, 14 primipara and 16 multipara had severe hemorrhages, but in every case the hemorrhage was easily controlled.

The possibility of scopolamin-morphin injuring the brain or nervous system, or producing a drug habit is more forcibly demonstrated by an injury case that came under my care in May, 1917, than by any case that can be found in this series. A boy of 14 years of age was run over by an auto truck, fracturing his pelvis and rupturing the urinary bladder, with resulting extensive extravasation of urine. Suprapubic drainage of the bladder and drainage of the extravasated area, which was necessary for many weeks, made the case one that required constant effort to relieve pain. During a period of eleven weeks he was given over 500 hypodermic injections of scopolamin 1/100th grain, with morphin. He made an excellent recovery and since the accident had finished school, working in a drug store part of the time, to assist in the family support. On the withdrawal of the drug, no symptoms of habit were detected, nor any evidence of mental deterioration.

Foreible testimony to faith in the safety of this anesthetic is found in the number of patients who returned to the hospital for subsequent deliveries. Four patients returned four times for delivery; 30 patients returned 3 times for delivery, and 159 patients returned twice for delivery.

In this report, the total number of cases—2023—were used only in connection with the fetal and maternal mortality, and the patients returning for delivery. In reporting the asphyxias, the hemorrhages, and forceps deliveries, it may be noted that the first 419 cases were admitted and only the last 1594 were used. This was done to secure greater accuracy, as in the first 400 cases, many different combinations of scopolamin and morphin were used, and we had not yet perfected the apparatus for harmless restraint during delivery. At this time, the patients were all kept in the delivery room during the entire labor. In the 1594 patients the method as described in this paper was used in all cases and the patients were kept in a so-called twilight room adjoining the delivery room until just before the delivery.

This report of 2023 cases could be more than doubled if I included the 824 deliveries of the patients of Dr. Vesper Schaffer, of Chicago, who has used this method successfully for the past six years in the private homes of this city. Dr. Elizabeth Minor, of MaComb, Illinois, gave a gratifying report of the use of this method for a period of 5 years. Her paper was read before the

Illinois State Medical Society in May, 1920, at Rockford, Illinois. Dr. Fred Phifier, of the Wheatland Sanitarium, Wheatland, Wyoming, gave a most flattering endorsement of this method in a paper read before the Wyoming State Medical Society in July, 1920. Dr. G. S. Mosher, of Kansas City; Dr. Martha Welpton, of San Diego, California; Dr. Edith McCann, of Milwaukee, Wisconsin, and Dr. Mabel Gardiner, of Middletown, Ohio, use this method, and feel that it is both safe and practical. There are many others whose names could be mentioned but the above are given as being of special interest, owing to their kind of practice or to their location.

The general applicability of this anesthetic to all cases, the cheapness of the drug, its easy portability, its simplicity of administration, its freedom from dangerous or disagreeable sequelae, all help to make it by far the most practical anesthetic in the field of obstetrics. As it is the only anesthetic at all practical for the first stage of labor, or for a prolonged labor, it is hoped that this report regarding its safety and practicability will be received by even the most conservative members of the profession and used to extend more widely that much to be desired of women—painless childbirth.

In 2023 deliveries there were 48 (2.3%) full-term stillbirths; 40 (2%) premature births; 3 (1/10%) maternal deaths.

Analysis of full-term stillbirth (48): Macerated, 9 (19%); monsters or deformities, 5 (10%); cord anomalies, 8 (17%); disproportion between maternal pelvis and fetal head, 13 (27%); embryotomy for transverse, 1 (2%); breech presentation, 3 (6%); lues in the child, 4 (9%); eclampsia or flu, 3 (6%); cause not assigned, 2 (4%).

Analysis of cause of maternal deaths: Eclampsia, 1; septic peritonitis, 1; flu-pneumonia, 1.

In 727 multipara delivered, low forceps were used 17 times, mid-forceps were used 5 times, high forceps were used 3 times.

In 877 primipara delivered, low forceps were used 98 times, mid-forceps were used 38 times, high forceps were used 21 times.

Pituitrin was not given to primipara.

In 727 multipara, 16 had severe hemorrhages.

In 877 primipara, 14 had severe hemorrhages.

All hemorrhages were controllable.

In 1604 deliveries, 53 babies required resuscitation, 30 primipara, 23 multipara; 29 mothers had had not more than 4 doses; 20 mothers had had not more than 8 doses; 3 mothers had had not more than 12 doses; 1 mother had had not more than 15 doses.

No resuscitation was required in 20 mothers who had more than 15 doses.

The largest number of doses given any mother was 31.

In 727 multipara delivered, 49% had not more than 3 doses or anesthesia length 14 hours; 11.5% had not more than 9 doses or anesthesia less than 8 hours; 7% had not more than 9 doses or anesthesia less than 14 hours; 4% had not more than 9 doses or anesthesia less than 14 hours.

In 877 primipara delivered, 23.5% had not more than 3 doses or anesthesia length 3 hours; 45% had not more than 6 doses or anesthesia length 8 hours; 20% had not more than 9 doses or anesthesia length 14 hours; 11.5% had not more than 9 doses or anesthesia length 14 hours.

In 1604 deliveries, 1.25% had more than 15 doses.

Position and conduct of the patient: In the first half of the first stage, *sleeping quietly*. In the second half of the first stage, during a contraction, *restlessness increasing to the end of the second stage*. Between contractions, *sleeping quietly*.

Position and conduct in the second stage: During the descent of the head, *sitting upright with the leg crossed tailor fashion*. Head on the perineum, *lying on the side and bearing down with each contraction*.

Rules for conduct while alkaloidal anesthesia and analgesia is being produced:

1. *Finish all preparations before the first dose is given.*
2. *Keep room dark and quiet.*
3. *Allow no one in the room with the patient.*
4. *If pains are severe or labor advanced give nitrous oxide gas during pains for one-half or three-quarters of an hour.*

Rules for conduct in maintaining alkaloidal anesthesia and analgesia.

1. *Allow the patient plenty of water but NO food.*
2. *Allow the patient to do as she desires unless it threatens to be injurious.*

3. *Do not question or converse with the patient. It is useless to ask her to bear down or refrain from it.*

4. *After the first three doses noise and light disturb the patient very little.*

5. *Do not give ether or chloroform in addition to the alkaloidal anesthesia for the APPLICATION OR USE OF FORCEPS.*

6. *Put the patient under ether or chloroform to perform VERSION, PUBIOTOMY, OR REPAIR EXTENSIVE LACERATIONS.*

7. *If the patient is UNMANAGEABLE DISCONTINUE the scopolamin and in two hours she will be in normal mental condition.*

Rules for putting the patient into restraints for delivery.

1. *Rupture of the membranes in multiparae.*

2. *Appearance of the head at the vulva in primipara.*

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DISCUSSION.

Dr. J. F. Oechsner: There is nothing that I care to discuss particularly relative to the subject itself. I believe that Dr. Van Hoosen is perfectly willing that we throw aside the courtesy of host and have a free criticism of her paper, whether favorable or adverse.

We know that twilight sleep has not met with favor in New Orleans, or generally in the United States for that matter. I know nothing about the subject personally, but think the door should be thrown wide open for free discussion that we may get at the truth and alleviate the sufferings of prospective mothers, if possible.

Dr. P. J. Carter: I wish to heartily endorse Dr. Van Hoosen's paper. I have had quite a little experience with the treatment myself. It was my pleasure to give twilight sleep to a number of the one hundred cases in the New York Lying-in Hospital, which were published by Harrar and McPherson. I have personally had some one hundred and fifty cases. I demonstrated the treatment in the city of New Orleans at Charity Hospital in 1914 by giving it to fifteen cases. Thirteen of these were successful, two being unsuccessful. The two unsuccessful cases were due to the patient not being in labor long enough, that is, they delivered themselves in less than two hours from the time the treatment began.

I use gr. 1/100 scopolamine hydrobromide with gr. 1/3 pantopon for the initial dose, after which the scopolamine alone is used. The scopolamine is then given each one-half hour until the third dose is given, then I cut it down to gr. 1/200, or wait until patient shows signs of coming out of it. I do not use morphine at all, claiming that pantopon does away with the nausea, vomiting and headache which sometimes accompany the administration of morphine.

I have never witnessed a blue baby in this form of treatment.

Three months ago I had a case in a multipara, whom I gave the treatment to in unfavorable conditions, in a one-room apartment house. I gave her gr. 1/100 of scopolamine and gr. 1/3 pantopon at the initial dose then repeated the scopolamine gr. 1/100 for two more doses. Ten minutes before delivery I gave her 1/200 scopolamine. She delivered in one hour and fifty minutes, with absolute amnesia and analgesia.

The pulse of the patient and the fetal heart are taken every fifteen minutes after the first injection of the drug, which is a material advantage over treating the cases without twilight sleep. I am in actual attendance from the first injection of the drug until the birth of the baby.

In no case have I ever seen the maternal pulse or fetal heart sound vary five beats during the whole treatment. I have given as many as fifteen doses of gr. 1/100 scopolamine, given every half hour, without producing any bad results.

I would like to ask Dr. Van Hoosen why she uses the hydrochloride instead of the hydrobromide of scopolamine, or does she notice any difference in the action of the two drugs? In my work I use the scopolamine hydrobromide.

Dr. E. L. King: I would like to ask something about blue babies. I believe the Doctor said there were fifty-three. That gives about 2½%, which is somewhat higher than one would expect. I would

like to ask if with those blue babies were included the babies delivered instrumentally?

Dr. McCutcheon: I would like to know what the monsters or deformities were.

Dr. Herman B. Gessner: In what way does Dr. Van Hoosen's technique differ from that of the Freiburg Clinic? I should like to know the difference in the two techniques.

Dr. Van Hoosen (closing): Dr. _____ wants to know what attention we pay to the pulse, respiration, etc. The nurse in charge, before giving each hypodermic injection of scopolamine, takes and records on the chart the foetal and maternal pulse and the maternal respiration. The patient receives exactly the same attention, and no more, than she should have if no anesthetic was given. The physiological effect of 1/100 gr. doses of scopolamine is to increase the force and frequency of the foetal and maternal heart. A foetal heart that could not be heard before the scopolamine was administered will become audible to the duller ear after the mother has been given three or four doses. This effect is so pronounced that I have often used it as a diagnostic point in diagnosing pregnancy in the third trimester.

Is the patient left alone? Yes, while the first three doses are being administered the patient is left quite alone unless the labor was advanced when the anesthetic was begun. The nurse looks in on the patient frequently but we do not keep anyone in the room with the patient until she nears the beginning of the second stage. After the second stage begins, we never leave her alone. Either nurse or interne is in constant attendance. I do not feel that the patient needs watching any more closely than she should be watched if she had no scopolamine morphine. I am aware that there are physicians who feel it is not necessary to be in attendance on the patient until the head is ready to pass the perineum, but I feel that the time when the patient needs close attention and intelligent and skillful care is from the moment she goes into labor till the head is ready to pass the perineum. I believe that pre-delivery care is as important as pre-natal care.

Regarding the best preparation of scopolamine for inducing twilight sleep, I can only say that I have always used the 1/100-grain tablets of Parke, Davis & Co. I began my work with this preparation and having had satisfactory results, have continued using the same preparation. I believe any reliable American firm will furnish a satisfactory article.

The doctor speaks about not getting results in less than two hours. I believe if you will question patients closely, you will find that in five minutes after the first injection of scopolamine has been administered, the pain is more bearable and that patients are grateful for even that little relief.

There seems to be an idea that scopolamine is only suitable as a first-stage anesthetic. Drs. De Lee and Cornell consider it of the greatest value in the first stage in the conduct of an occipito posterior position, but they and many other obstetricians seem to question its safety in the second stage of labor. In this series of 2023 cases every patient had a dose of scopolamine during the second stage and I believe it is not only a safe procedure, but necessary for a perfectly successful twilight sleep. The fifty-three resuscitations included every case where the baby did not breathe and cry immediately after birth and also included all resuscitations after forceps deliveries. The babies requiring resuscitation were not blue babies, as I have explained in my paper.

As to the nature of the monsters: if my memory serves me, they were non-closures of the abdominal cavity, anencephalus and hydrocephalus.

The effect of the scopolamine morphine anesthesia on patients who were delivered more than once by this method shows it to be as efficacious—if not more so—in the second, third or fourth deliveries.

How does the technique that I use differ from the Freiburg technique? In the size of the dose, which is always 1/100 gr. of scopolamine no matter how many doses have been given and that each dose is given at regular stated intervals and no use is made of a memory test as a guide to repeated doses. I have tried the Freiburg method but have never been pleased with it. It requires too much disturbance of the patient and there is always an uncertainty as to when and how often you should give repeated doses of scopolamine.

I have never used a dose of H. M. C. and object to it because of the large amount of morphine in each dose.

I would like to ask Dr. Newman what bad after-effects he has had with scopolamine morphine.

In the 2023 cases here reported, we had only six Caesarian sections. Our large number of high forceps came from allowing the primipara a trial labor and I am quite sure that twilight sleep was no factor in our use of high forceps. Since this series was compiled, we have had nearly 1000 of twilight sleep, but we have given up high forceps and treat disproportions with either Caesarian section or pubiotomy. In Caesarian section or pubiotomy, we have no infant mortality. I think there is nothing more destructive to the baby than the use of high forceps.

Obstetrics is an art and for a successful delivery it is necessary to understand obstetric science as well as the proper use of all anesthetics. If the patient is under twilight sleep and is not suffering, you may be inclined to wait too long before interfering, but if the patient is not under twilight sleep, the pleadings of the patient and the family may lead you to interfere unnecessarily. Twilight sleep is simply an anesthetic and if you do not have good results without twilight sleep, you will not have any better results with twilight sleep.

In regard to lacerations, I can truthfully say that we have fewer tears with twilight sleep than without, due solely to the greater time taken for the head to pass over the perineum.

I would like to call your attention to the fact that in this series of 2023 cases, no patient developed puerperal insanity or convulsions during the twilight anesthesia. Considering that statistics give puerperal insanity as occurring once in every 400 cases, we may rightfully say that twilight sleep is a prevention of puerperal insanity and convulsions during labor.

As to management of an excitable patient, I would like to cite a case: At the time of the A. M. A. meeting in Detroit four or five years ago, I delivered two patients under twilight sleep. One was a Russian Jewess, the other an American woman. The behavior of patients under twilight sleep depends upon how they have been trained socially. If an individual has been brought up from childhood to control her reflexes or, in other words, has good manners and later in life goes under twilight sleep, she will be well behaved, but otherwise she may not be so easily controlled.

In this instance the Russian Jewess was born in Russia and reared under adverse conditions. The American had been carefully trained in good manners. The patients were both in the Woman's Hospital of Detroit and as the labor of the American woman was progressing more rapidly, I was staying with her till she delivered, but I was suddenly and urgently called to the room of the Russian Jewess and found her out of bed, standing in the middle of the room, with a chair upraised in her hands and six or eight visiting men physicians trying to control her. I said: "Everybody leave the room," and I

took my position in the back part of the room. I suspected that she had tried to get out of bed to empty her bladder and being opposed, had begun to fight; so, seeing a pail, I pushed it towards her. My suspicions were correct, for she immediately sat on the pail and emptied her bladder. Most people empty the bladder before going to bed, so I shouted: "Jump into bed," and appealing to her modesty, said: "Somebody is coming!" She asked "Who?" I answered, "A man." She made one bound into her bed and drew the sheet up over her. No amount of physical force could have gotten her into bed or kept her there.

You must understand the management of patients under twilight sleep through their reflexes. They will not hit their heads or be injured if properly managed.

THE ANNUAL MEETING

of the

THE LOUISIANA STATE MEDICAL SOCIETY

Will Take Place in

NEW ORLEANS ON APRIL 10, 11 AND 12

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EDITORIALS.

LOUIS PASTEUR.

During the closing days of December, 1922, many organizations in the medical centers of the United States and a number of the American Universities held celebrations in honor of the 100th anniversary of the birth of Louis Pasteur. This issue of the Journal is devoted to the celebration held by the Orleans Parish Medical Society and represents their effort to honor one who has done so much for the advancement of science and medicine particularly. Born 100 years ago on December 27th, 1822, of hard working parents who made every sacrifice for his edu-

education and training, he grew in knowledge and accomplishments until his fame spread throughout the entire civilized world as one of the greatest benefactors of the human race.

Educated as a chemist, he became interested in crystallography and observations made during the study of this science, led to the belief that putrefaction and fermentation are due to the specific effect of living things. He then learned that he could produce a particular fermentation by using a known "seed" in suitable mixtures or juices and thereby founded the science of bacteriology. He proved that germs are the cause of disease and by incontrovertible experiments showed that infectious diseases in man, animal and plants could be controlled. He is, therefore, the father of preventive medicine.

The above are but a few of his wonderful attainments and when one considers the accomplishments of this man in unexplored fields and the incalculable benefit he has brought to the world we stand in wonder at the largeness of his intellect, and the greatness of his soul.

We learn from reading his life that he was a gentle soul, deeply religious, wholly unselfish and unspoiled to the end, and wholly submerged in his life work. He had the great fortune to live and realize the good that he had done and the suffering that he had relieved, dying on September 28th, 1895.

A MILLION.

We are informed by the lay press that the Charity Hospital at New Orleans, is to institute a statewide drive for the purpose of raising \$400,000. Certainly there can be no more worthy objects of charity than the poor when afflicted by disease. To make the goal of this campaign a million dollars would not be too much, but by all means, let this million as well as every other available dollar *be for the POOR, EXCLUSIVELY*. This does not apply to emergencies requiring immediate attention when no questions should be asked. However the limited facilities of this great institution—limited compared to the enormous services it is called upon to render—should be safeguarded against the miserly and unscrupulous. The Charity Hospital is intended solely "for the indigent poor of the State of Louisiana." Should there be but an occasional instance of imposi-

tion on the institution, by just so much must *some worthy invalid be deprived of deserved attention*. The populace comprising the State of Louisiana and surrounding states is neither worse nor better than that of the average community of their size. So that reasoning alone from the law of averages it would be expected that a rather considerable number of impositions should occur during say, the stated period of a year. At a time when every dollar must be made to count, with an organized social service department, with the centralization of all admissions as they will be in the new clinic building, would it not be wise to "check up" on the unscrupulous? It is certainly possible to ask an applicant in an *inoffensive way* his means of livelihood, the number of his dependents and whether or not he is a property holder. With even this meagre data, the social service department could investigate the suspicious case. Such a plan might prove a revelation and above all things might serve the most laudable purpose of affording the *worthy poor*, without question of a doubt, *the fullest possible benefits available*, according to the hospital's entire resources.

NOTA BENE.

Whenever a member of the State Society gains distinction or unusual recognition as a result of his personal attainments or scientific contribution to the general store of medical knowledge, it would seem unnatural for the Journal to fail to point out these achievements, with perhaps a bit of pardonable pride. In this connection the pioneer work of Dr. Amedee Granger on the X-rays of the sinuses is of particular note as it opens up new vistas undreamed of in the past. This work is replete with promise for the future and has already gained widespread recognition for its author.

In this connection also is to be noted the election of Dr. Rudolph Matas to the exclusive Société Nationale de Chirurgie, of Paris.

We learn also of the election of Dr. Matas, as a member of the Royal Academy of Medicine of Barcelona, Spain. That this election took place under suspension of the rules, "by acclamation," was a fitting tribute to the "most learned surgeon" and redounds also the credit of the State Society.

THE SCHOOL DOCTOR.

Every now and then we have experienced in the homes of our friends, patients or ourselves great anxiety, uncertainty and great expense, on account of the illness of some boy or girl away from home at school.

Unless one has had personal experience with a sick child hundred of miles from home, these things may not be appreciated.

The best and most fashionable school is selected for Joseph or Elizabeth. Every consideration is had for location, climate, water, the standing of the faculty and the morale and scholastic standing of the school alumni. Athletics, military training and what not are taken into consideration, but except in rare instances is any attention paid to the character and kind of medical supervision and facilities for attention to and proper modern care of the possibly sick boy or girl.

The trouble with many boarding schools and preparatory schools is that not enough attention is given to the physical comfort, especially as regards warmth of children and young people from the south going into colder climates.

The very highest grade of physician should be demanded by parents more surely than the highest grade of teachers.

A poor doctor is costly in money and life.

As physicians we should pay more attention to this important matter, in helping in the selection of a school.

THE LOUISIANA STATE MEDICAL SOCIETY

Will Meet in

NEW ORLEANS ON APRIL 10, 11 AND 12

SOCIETY PROCEEDINGS.

**PROCEEDINGS
OF THE
HOTEL DIEU STAFF.****Monthly Meeting for February, 1923.****The President, Dr. Homer Dupuy, in the Chair.****ASCITES OF LESSER PERITONEAL CAVITY.**

DR. DANNA showed a case of Ascites of the Lesser Peritoneal Cavity due to occlusion of the foramen of Winslow following trauma to the upper abdomen, with operation and apparent cure.

The patient came to the Hotel Dieu August 1st with a history of striking his epigastrium against the corner of the dining table during a nightmare. He presented the picture of a severe abdominal injury, immediate operation being considered. He was given rest, morphine and starvation, and gradually improved, but continued to have some pain, with occasional severe colic. After a few days he developed a swelling in the left hypochondrium which gradually increased in size. Having in mind a boy seen some fifteen years ago who had been run over by a cart and who followed a somewhat similar course, a tentative diagnosis of ascites of the lesser peritoneal cavity was made, and operation decided on. August 7th a left rectus incision was made. The stomach and transverse colon were found lying across the line of incision, flattened out upon and adherent to the abdominal wall, with a space of about two inches of gastro-colic omentum between them. This omentum was slit in the line of incision and a large quantity of slightly brown tinged fluid escaped under pressure. A drain was inserted and left in for more than two weeks. October 4th he left the hospital with the wound healed. He had felt well since operation two months before. He did well till three weeks later when following another injury he began to have pain again and soon developed a swelling of the epigastrium and right hypochondrium. He came back to the Hotel Dieu with an oblong swelling under the edge of the liver that moved up and down with respiration. Gradually the swelling in the right hypochondrium subsided and the left hypochondrium became swollen and dull on precussion. It was concluded that the ascites had re-

curred and operation was again decided on. The problem was to get some permanent result. Evidently ascitic fluid was being poured into the lesser cavity faster than the lymphatics could take care of it, and the foramen of Winslow being closed, either as a result of the original trauma or a congenital defect, the fluid could not find its way into the greater peritoneal cavity the vast absorptive surface of which would probably have easily taken care of it. It was plain, therefore, that either the foramen of Winslow must be rendered patulous or a new foramen must be created. As drainage was what was desired, it seemed that the creation of a permanent opening between the greater and lesser cavities at a point where gravity would facilitate drainage was the procedure of choice.

The abdomen was opened at the site of the old incision, the skin scar being excised. To the operator's surprise, the abdominal wall was found free of adhesions the stomach and colon being free in the cavity, lying on the surface of a cystic mass that occupied the greater portion of the upper abdominal cavity, the stomach lying on its anterior surface and the colon forming its antero-inferior border. This mass was now lifted so as to show the under surface of the transverse meso-colon and the suction apparatus inserted into the fluid cavity through a small puncture. Seventy-five ounces of fluid was drawn off. The puncture was now enlarged so as to make a vertical slit about three inches in length. The middle of the edges of the slit were folded over and tacked with a few sutures to the under surface of the meso-colon, resulting in an elliptical opening three inches vertically and about two inches transversely, the margin of which was lined with peritoneum. He made an uneventful convalescence and has been getting fat since.

DR. FICKLEN thought Dr. Danna's case was most interesting and rare. He was very much struck by the recurrence of formation of fluid in a case which apparently was traumatic peritonitis. All types of peritonitis except those like in neoplasm or tuberculosis have a tendency to turn one way or other in a short time. There might have been a slow leakage from a ruptured blood vessel or from lymphatics. The boy looked to be in good condition, but he shared Dr. Danna's fear about a hernia and recurrence.

DR. GELPI wanted to know if there was any evidence of fluid in the general cavity now?

DR. NIX asked whether the treatment was the same in the similar case 14 years ago.

DR. SALATICH thought it was hard to keep the opening in peritoneum patulous. He believed that the opening would close soon. Stomach would have a tendency to go down that way and become adherent as in posterior gastro-enterostomy. The point that struck him was the possibility of recurrence.

DR. PHILLIPS asked what was the nature of the fluid, and if it was encapsulated or not? He also asked as to the possibility of pancreatic cyst.

DR. WALET asked if repeated tapping would not have cured him, as in pleura effusion or Hydorcele?

DR. DANNA in closing said that occasionally we see cases in which the foramen of Winslow is congenitally closed. This man received an injury to his epigastrium. Whether his foramen of Winslow was already closed at the time of the injury or became occluded as a result of the same trauma that caused the serous effusion was not determined and matters but little. The fact remains that more fluid was being secreted than was being absorbed and it was therefore accumulating. Had this fluid had an exit into the greater cavity, the absorptive surface of which is possibly 100 times greater, it would probably have been taken care of and produced no symptoms.

There was no fluid in the greater cavity of the case presented. At the first operation the greater cavity was not opened, the adherent colon, stomach and omentum shutting it off. The lesser cavity was opened by blunt incision through the omentum.

It was not a pancreatic cyst. There was no question as to the fluid being free in the lesser peritoneal cavity. It was a clear straw colored serum.

The necessity for making a second incision, and the greater probability of its re-closure, together with possible difficulties in its performance decided against re-opening the foramen at its normal site. An opening through the gastro-hepatic omentum was considered but it was thought that this would probably

close more readily and its performance be attended with more difficulty and risk to the patient. Although the danger of hernia was borne in mind, the advantage from the standpoint of drainage, the greater ease of making a permanent opening and the facilitation of drainage at this point by gravity, were the factors which finally decided in favor of an opening in the transverse meso-colon.

The other case fifteen years ago was cured by prolonged drainage. Either the foramen of Winslow finally opened, or the lesser cavity closed as every other drained cavity in the peritoneum closes, by granulation and obliteration of the cavity.

RECURRING INTUSSUSCEPTION.

DR. MAURICE GELPI reported a case of intussusception, apparently recurring, in a child two years of age.

The child had always been strong and robust. He was left in a swing and when the mother returned, she found the child out of the swing, on the porch, crying and complaining of his abdomen. The mother inferred that the child had fallen out of the swing. The same day the child vomited a small amount of blood. For two weeks there were periodic attacks of cramps, nausea and vomiting. At this time a sausage-like mass was noticed in the epigastrium by the mother. For the next seven days the mass and periodic cramps persisted, while the nausea and vomiting were such that the child could retain nothing. Blood and mucus had been noticed once or twice in the stools. There was a daily movement.

Three weeks after the supposed fall from the swing he was brought to New Orleans and when first observed gave the impression of being critically ill. The child was very weak, restless and emaciated; the pulse was regular but rapid and feeble, about 140, the abdomen was soft, slightly distended and rigidity was absent. Running transversely across the epigastrium could be easily palpated a sausage-like, doughy mass, occupying the position of the normal transverse colon. X-ray examination at this time revealed an indefinite mass in the epigastrium apparently extending downward in the direction of both flanks. No mass could be felt per rectum. Total white blood count was 16,600 and 57 Polys; Hemoglobin 70% and the Red count

unsuccessful on account of a breech in technique. A few red blood cells were found in the stool. Intraabdominal hematoma and intussusception were thought of as the most probable diagnosis. In view of the child's impossible condition from the surgical standpoint and considering the fact that the child had survived three weeks without intervention, it appeared justifiable to delay operation until further information could be obtained. Beginning the next day the cramps subsided and the child retained water in small amounts. The blood count at this time was 14,000 white cells and 70 polys and 3,500,000 reds. Paroxysms of cramps continued to be less frequent then ceased. This improvement continued for about three days, with only occasional vomiting, though the mass persisted. The mother had previously observed however that at times the mass seemed to disappear. This observation was corroborated about two days later when the case was first seen in consultation with Dr. DeBuys. At this time the mass could not be outlined. The child was now handling liquids and two ounce feedings of cream of wheat or strained oatmeal. X-ray pictures were unsatisfactory and apparently disproved the presence of an intussusception though the work was unsatisfactory on account of the child's condition and behavior. The transverse colon did not show in the pictures but was visualized under the fluoroscope by Dr. Fortier. For the next seven days the child's general condition improved remarkably, when persistent vomiting suddenly reappeared, as did also the cramps, the mass and bloody stools. At this time, the most prominent part of the mass was on the level of and to the left of the umbilicus. Six hours after recurrence of symptoms laparotomy was performed. This was about five weeks after the original symptoms. Exploration revealed an intussusception beginning at the ileocecal valve and extending to the level of the recto-sigmoid junction. It was easily reducible and outside of numerous patches of fibrin on the surface of the bowel, no abnormalities were found except that the entire cecum and lower half of the ascending colon were uniformly thickened and edematous. The bowel was simply restored to the abdomen, dependence being placed on the rapid formation of adhesions between the visceral and parietal peritoneum. Recovery was uneventful, without nausea, vomiting or distension. The case would have been shown, but had re-

turned to the country. Report by telephone, twenty days after operation, was that the child was doing splendidly.

The case was interpreted by Dr. DeBuys, Dr. Fortier and Dr. Gelpi, as having had an intussusception following a fall, recovering spontaneously and having a recurrence, as revealed at operation.

DR. FORTIER was convinced that this was a case of intussusception that reduced itself, because he had examined the case between the two attacks of acute symptoms. At this time the child was given a barium enema and immediately expelled this. Later, he gave him a barium meal and after six hours the stomach was emptied and the meal was already in the caecum. At the 24 hour examination, almost all of the colon was filled. The middle portion of the transverse colon was filled with gas. The rectum and sigmoid were filled with the barium and if the intestines were intussuscepted at this time there could have been seen obstruction of the barium meal with dilatation of the bowel proximal to the point of obstruction.

DR. DANNA was very glad to see the pictures because they proved that Dr. Gelpi was not wrong. If the child had intussusception continuously from the beginning, gangrenous bowel would have been found. He could not conceive of the intussusception remaining five weeks without being adherent. He did not think that could be possible.

DR. BLOOM said that the question of intussusception was important because the condition was very common in young children. As late as 1890, most of us considered the question of intussusception as fatal. As a matter of fact practically 90% were fatal. Now, the mortality had decreased to about 60% providing the diagnosis was made within 24 hours after onset. It seemed that practically 75% of all cases noted were under one year of age and involved the ileocecal valve. Other cases were found in and around the transverse colon. If a diagnosis was made early, simply massaging with oil or hot water often-times distributed the mass.

This was an unusual type and also brought out the fact that the so-called ileal type and jejunal type were seldom encountered.

DR. BELL asked how long the first attack had lasted.

DR. GELPI answered that the severe symptoms were intermittent, lasting altogether about 6 days. This history was obtained from the mother as the child was not seen by Dr. Gelpi until three weeks after the fall. When first seen, however, the mass was undoubtedly present and was demonstrated to Dr. Hamilton Jones and Dr. Dimitry.

It was to be noted that during the entire illness the child was having daily bowel movements always containing feces.

Three types of intussusception were commonly recognized, the enteric, where the small bowel was invaginated into itself; the colic, where the large bowel was invaginated into the large bowel, and the entero-colic, where the small bowel was invaginated into the large bowel through the ileo-cecal valve. The latter was the most common type and the case belonged to this group.

Seventy-five per cent of the cases occurred in children under one year of age.

THE LOUISIANA STATE MEDICAL SOCIETY

Will Meet in

NEW ORLEANS ON APRIL 10, 11 AND 12

**PROCEEDINGS
OF THE
TOURO INFIRMARY STAFF.
Monthly Meeting for February, 1923.
Dr. M. Feingold in the Chair.**

PURPURA HEMORRHAGICA.

DR. HENINGER presented two cases. The first case was a widow 38 years old. She came to the skin clinic on Sept. 7, 1922, for an eruption over the upper part of the chest. Her family history was negative except that her husband died of tuberculosis and she nursed him for 18 months. Past history was negative.

In September, 1922, spots appeared over the chest and upper abdomen, for which she came to Touro Infirmary. There were no previous attacks, no chills, no fever or other symptoms like cough or shortness of breath. She was seen by Dr. Oriol, who made a diagnosis of purpura hemorrhagica.

A Wassermann was made and on September 14th, the report was positive. She was put on mixed treatment. The spots disappeared from her body one month after this course of mixed treatment was started. About two weeks ago she had a slight hemorrhage (feeling a warm fluid in her mouth, which was blood). She had a copious hemorrhage later. There were no other symptoms. She was transferred to the medical clinic on December 7th. On that date examination showed a well-developed woman and well nourished. No purpura noticed at that time. Superficial examination showed no varicose veins in the pharynx but mucous membrane stained from a recent hemorrhage. Heart and lungs negative. X-ray picture of the chest showed an infiltration of both apices, more marked on the right, according to report by Dr. Samuels.

Dr. Heninger went over the case again and could not find anything in the lungs at all. He examined her heart again and found nothing. The blood count was made and the red blood cells were 4,460,000, white 16,200. Differential normal. Coagulation time was 2 minutes 45 seconds (made December 13th). The urine was negative. She was put to bed at home with a temperature observation every four hours. Her temperature was never over 98 degrees in the course of six days. No sputum was

obtained. The reason for presenting this case was that purpura from tuberculosis was rare, being only mentioned in the literature. Purpura associated with syphilis was rare also, but under mixed treatment the lesions disappeared.

The woman demonstrated was very well developed and on repeated examination nothing definite could be found in the lung. Dr. Heninger doubted that this was a tubercular infection and if so, it was certainly not active. He did not think this was lues of the lung as infiltration at the top was very unusual in lues.

The second case was a native of Louisiana, 67 years of age; mother of thirteen children. Her family history was negative except for a husband dying at the age of 70 years from heart trouble. She passed the menopause 30 years ago. Her past history was negative, except for some rheumatic pains which she had for some time. At various intervals for the past 25 years pain in the joints and calf of limbs was complained of. Two months ago she noticed a discoloration of the lower extremities for which she came to the surgical clinic of Touro Infirmary, having chills and fever. At that time she had a bilateral distribution of discoloration all over the legs, thighs, arms, etc. Wassermann was negative. She was sent to the skin clinic for confirmation of diagnosis of purpura hemorrhagica, which was confirmed. She was put on mixed treatment in the surgical clinic and sent to the medical clinic. On November 22, she was seen in the medical clinic and her history then was that two months previously she began to have chills and fever, with pains in the joints, and these spots came all over her extremities. She went to bed and was under treatment by a doctor in St. Rose, La., but obtained no relief. On November 22nd she had marked dyspnoea, some cyanosis; petechia of both extremities, varying in size and color. Some ulcerations varying in size and very superficial, were present on the lower extremities and there was tremor of the hands. The heart rate was 139; the heart enlarged to the left with normal rhythm; the pulmonic second sound accentuated and a short, soft, systolic murmur at the apex transmitted to axilla, was heard. There was no marked sclerosis of blood vessels. Blood pressure was 185-85. Blood count showed (11-23-22) Red 4,250,000, white 14,600, N. 71%, M. 29%, Hgb. 85%.

The urine showed a few hyaline casts; albumen a trace and no sugar. She was admitted on the 25th day of November (inside medical service) and was put on mixed treatment, stock solution of No. 153 with progressive doses of potassium iodide. She did very well. The day the patient went up to the ward urinalysis was made. Her urine contained sugar. The amount was not known, but she had albumin and casts. The next day more sugar was found and still albumin. Blood sugar on 11-27-22 was .16%. The blood culture was reported negative. Wassermann two days later came back strongly positive. She was at that time running temperature, but improved rapidly on mixed treatment with drops of potassium iodide. The spots disappeared. By December 1st, it looked as if she would get well. On December 4th she began to have chills and fever again. Blood count was 5,500 with a normal differential. Iodides and mixed treatment were stopped on account of nausea and soreness of the mouth.

On November 10th mixed treatment without additional iodides was begun. Three days ago she had a few more spots and rise in temperature.

This case was brought up because, according to Dr. Heninger, there was no doubt about the cause of the purpura being due to endocarditis subacute. He felt he could sustain that diagnosis by the blood count, chills and fever. He admitted the possibility of an endocarditis being implanted on a previously diseased valve which might have been leptic or streptococcal, but it was the aortic valve which was usually attacked by lues. Another reason was the fact that the urine showed sugar. The kidneys were diseased, the blood vessels were diseased, the heart was diseased, and the presence of sugar showed that the pancreas was affected.

DR. LYONS was interested in Dr. Heninger's cases because of his long interest in the subject of purpuric conditions. It seemed to him that the title of "acute endocarditis with purpura hemorrhagica" was not quite correct. He thought that the title should be "endocarditis with symptomatic purpura." There were but two forms of purpura hemorrhagica—one was the idiopathic and the other the symptomatic variety. Purpuric eruptions, on the other hand, occurred in a large number of infectious diseases, chronic intoxications and certain poisons. Purpura associated with endocarditis was very common.

Dr. Lyons thought the X-ray picture of the first case was most interesting in view of the lack of physical signs. The condition must be the result of old changes in the lungs. It seemed that the diaphragm on the right side was very high; there was a fibrous band in the left lung from the pleura to the left border of the heart, also bronchial gland involvement. Whether or not these changes were syphilitic, he could not say. The whole condition, considering the improvement, would suggest that that was the main etiological factor.

In the second case Dr. Heninger said the Wassermann was strongly positive. That made the reaction a little difficult to interpret. The symptoms that she had of an endocarditis with chills, fever, etc., might be an endocarditis of any type. The little spots she now had were hemorrhagic and frequently found in subacute endocarditis. Petechiae in these cases were not infrequently embolic in nature.

Dr. Lyons was rather inclined to think this case was a leptic endocarditis. It might be due to *pus cocci*. In the subacute forms it was not always easy to get a positive blood culture. She apparently had an exacerbation while still under antisiphilitic treatment. The history of 13 children, her appearance, etc., would not strongly suggest a leptic origin and the trace of sugar in the urine might be due to arteriosclerosis. In the idiopathic variety, which was rare, there were well-developed changes associated with severe hemorrhage and prolongation of the bleeding time, a non-retractile clot. The blood platelets were markedly diminished, but the coagulation time not markedly changed. In the symptomatic variety, the blood changes were not so marked. If these cases had actual hemorrhages, he would probably put them down as "endocarditis with symptomatic purpura hemorrhagica."

DR. KEARNEY said that the question of purpura reminded him of a case he had a year or so ago with Dr. Lacroix. The patient had rheumatism with purpuric spots, a condition which was called *peliosis rheumatica*. In routine examination for tonsillec-tomy, he discovered that he had a prolonged blood coagulation time—about 7 or 8 minutes. Calcium lactate was given in large doses over a period of a week or so and the blood coagulation time reduced to 3 or 4 minutes before he removed the tonsils. He had feared post-operative hemorrhage on account of the pur-

puric spots. There was no bleeding until the day following tonsillectomy, when the patient started spitting blood. The bleeding came from an oozing surface, first on one side and then the other and not from any vessel large enough to be ligated. The first day it yielded to local application of saturated solution of tannic and gallic acids and the subcutaneous administration of 2 cc. of hemaplastic serum. The second day the hemaplastic serum was repeated. When bleeding recurred on the third day 20 cc. of coagulen ciba were given intravenously by Dr. Lacroix. Following this the bleeding stopped and did not recur.

DR. ORIOL, in referring to the first case, said that the case first came to his clinic in September. He found her covered with these purpuric spots. In between these purpuric spots there was a macular eruption which made him suspicious of lues. He had a Wasserman made. The Wasserman came back strongly positive. Mixed treatment was given immediately and the spots disappeared entirely in about three weeks. She came back about two months after complaining of having had hemorrhage and of splitting blood. She was transferred to the Medical Clinic, where she came under Dr. Heninger's care. There was no doubt in Dr. Oriol's mind that this case was a syphilitic purpura. It was the first case which he had seen that was really syphilitic in origin. He thinks that if ever this were kept in mind many more cases of luetic purpura would be found and that any case of purpura should have a Wasserman made to find out if it were of luetic origin. The second case was sent from the Surgical Clinic for confirmation of diagnosis. Apart from this he knew nothing of the treatment of the case.

DR. LEVIN asked with reference to Dr. Heninger's second case whether another urinalysis was made to determine the presence or disappearance of glycosuria. The combination of lues and diabetes was a very interesting one. Some syphilologists claimed that a luetic condition influences diabetes. In other words, their contention was that, while the luetic infection which involved the pancreas was present, glycosuria was also present, and by treating the underlying factor, lues, the glycosuria disappeared. He had spoken to Dr. Leman on this subject; was not sure whether we were justified in entertaining such a contention. It would be very interesting to observe cases of this type and watch results.

DR. HENINGER said the first Wasserman mentioned by Dr. Lyons was made September 14th and was reported negative. The second Wasserman was made on the 26th day of November, which was about two months after sixty days of treatment; the report was strongly positive. As far as the sugar was concerned, he was under the impression that this was an interstitial lues all over the body. This woman had casts, albumin, blood cells in her urine and a blood sugar of 16% on fasting, and it seemed that if she had a true diabetes, and in spite of kidney being damaged, the blood sugar should have been higher. He did not consider this case one of diabetes except in so far as it was due to interstitial pancreatitis due to syphilis.

He could not answer whether the sugar had disappeared from the urine, because since the third specimen was examined no urinalysis had been made.

THE LOUISIANA STATE MEDICAL SOCIETY

Will Meet in

NEW ORLEANS ON APRIL 10, 11 AND 12

NEWS AND COMMENT.

BULLETIN OF THE LOUISIANA STATE MEDICAL SOCIETY. The approaching meeting of the Louisiana State Medical Society, to be held in New Orleans, La., April 10, 11 and 12, 1923, will be from all appearances one of the best held by the Society.

Besides the unusual character and attractiveness of the scientific program, which is without doubt the best that has ever been offered, unusual plans are being made for the social entertainment of our members, including all doctors, ladies and guests.

Dr. Amadee Granger as Chairman of the Arrangement Committee, in co-operation with his active and energetic subcommittees, are doing all in their power to give those in attendance a lot of entertainment during the spare moments between the scientific sessions. A detailed announcement of the social entertainment will be made at a subsequent date.

Headquarters for the Louisiana State Medical Society will be at Hutchinson Memorial, Tulane University of Louisiana, 1551 Canal Street, New Orleans, La.

Anyone wishing special reservations at the hotels may obtain same by communicating with the clerks of the following hotels:

The Grunewald Hotel, University Place.

St. Charles Hotel, St. Charles and Common Streets.

De Soto Hotel, Baronne Street.

Monteleone Hotel, 214 Royal Street.

The following is the scientific program received up to date:

SECTION ON MEDICINE AND THERAPEUTICS.

Dr. A. E. Fossier, Chairman, New Orleans.

1. "An Analysis of 14 Cases of Pulsus Alternans and Its Detection by the Auscultatory Blood Pressure Method," Dr. Randolph Lyons, New Orleans.

2. "Digitalis in Heart Failure," Dr. J. Birney Guthrie, New Orleans.

3. "Status of Certain Cardio-Vascular Conditions, with Treatment Illustrated," Dr. H. P. Jones, Tulane University, New Orleans.

4. "Treatment of Tuberculosis," Dr. W. J. Durel, New Orleans.

5. "Complete Transposition of Thoracic and Abdominal Organs," Dr. Geo. S. Bel, New Orleans.

6. "Carbon Tetrochloride in the Treatment of Hook Worm Disease." Report of Cases, Dr. S. G. Hobson, New Orleans.

7. "Diagnosis and Treatment of Small Pox," Dr. J. G. Stulb, New Orleans.

Discussions by Drs. Ralph Hopkins and Oscar Dowling.

8. "Treatment of Tetanus," Dr. A. A. Herold, Shreveport.

9. "Report of 150 Cases of Typhoid, Without Death," Dr. S. J. Couvillon, Moreauville, La.

10. "Streptococcus Meningitis, with Reepport of an Unusual Case," Dr. S. Chaille Jamison.

SECTION ON PEDIATRICS.

Dr. M. S. Picard, Chairman, Shreveport, La.

No program received to date.

SECTION ON NERVOUS DISEASES.

1. "What Louisiana Is Doing for Her Insane," Dr. John N. Thomas, Pineville, La.

To open discussion, Dr. T. W. Evans, Alexandria, La.,
Dr. C. S. Miller, Jackson.

2. "What the State Is Not Doing for Its Mentally Diseased," Dr. Henry Daspit, New Orleans, La.

To open discussion, Dr. Joseph A. O'Hara, New Orleans, La.,
Dr. B. F. Gallant, New Orleans.

3. "A Conception of Psycho-Neuroses and Errors to Be Avoided in Their Diagnoses," Dr. E. McC. Connely, New Orleans, La.

To open discussion, Dr. L. V. Lopez, New Orleans, La.,
Dr. W. J. Otis, New Orleans, La.

SECTION ON BACTERIOLOGY AND PATHOLOGY.

Dr. J. J. Wymer, Chairman, New Orleans, La.

"Etiology of Dengue Fever," Dr. Charles Duval, New Orleans, La.

"Transmission of Dengue Fever to the Experimental Animal," Dr. William H. Harris, New Orleans, La.

SECTION ON GENERAL SURGERY.

Dr. T. H. Watkins, Lake Charles, La., Chairman.

1. "Sarcoma of Bone, with Especial Reference to Malignancy," Dr. F. W. Parham, New Orleans, La.

To open discussion, Dr. R. Matas, New Orleans.

2. Subject of paper to be announced later. Dr. J. L. Wilson, Alexandria, La.

3. Subject of paper to be announced later. Dr. L. O. Clark, Lafayette, La.

4. "Osteomyelitis," Dr. Urban Maes, New Orleans, La.

To open discussion, Dr. John Oeschner, New Orleans, La.

5. "The Scope and Indications of Myomectomy in Fibroids of the Uterus," Dr. C. Jeff Miller, New Orleans, La.

To open discussion, Dr. Marion Souchon, New Orleans, La.

6. "Tetanus," Dr. P. Graffagnino, New Orleans, La.

To open discussion, Dr. R. O. Simmons, Alexandria, La.

7. "Surgical Shock," Dr. James Q. Graves and Dr. Jesse L. Adams, Monroe, La.

To open discussion, Dr. J. C. Willis, Shreveport, La.

8. "Arthroplasty," Dr. Herman Gessner, New Orleans, La.

To open discussion, Dr. Louis Levy, New Orleans, La.

9. "Congenital Arthritis with Ankylosis of Various Joints,"

Dr. Paul A. McIlhenny, New Orleans, La.

To open discussion, Dr. H. W. Kostmayer, New Orleans, La.

10. "Neurological Surgery," Dr. W. O. Ott, Rochester, Minn.

SECTION ON GYNECOLOGY AND OBSTETRICS.

Dr. H. E. Bernadas, Chairman, New Orleans, La.

1. "Conservatism in Dealing with Pelvic Infection," Dr. T. B. Sellers, New Orleans, La.

2. "The Utero-Sacral Ligaments and Their Relation to Descensus of the Uterus," Dr. J. F. Dicks, New Orleans, La.

3. "Plastic Operation on the Female Perineum," Dr. W. D. Phillips, New Orleans, La.

4. "Abruptio Placentate," Dr. H. E. Bernadas, New Orleans, La.

Open discussion, Dr. H. E. Miller, New Orleans, La.

SECTION ON UROLOGY.

Dr. M. H. Foster, Alexandria, La., Chairman.

1. "An Appreciation of Some of the Modern Methods in the Diagnosis and Treatment of Syphilis," Dr. Frank J. Chalaron, New Orleans, La.

SECTION ON DERMATOLOGY.

Dr. R. A. Oriol, New Orleans, La., Chairman.

1. "Treatment of Tinea Infection of the Hands and Feet," Dr. Jeffery C. Michael, Houston, Texas.
To open discussion, Dr. J. N. Roussel, New Orleans, La.
2. "Focal Infection a Cause of Erythema Multiforme," Dr. R. A. Oriol, New Orleans, La.
To open discussion, Dr. Ralph Hopkins, New Orleans, La.

SECTION ON RADIOLOGY.

Dr. Lester J. Williams, Baton Rouge, La., Chairman.

1. "Practical High Voltage X-Ray Therapy," Dr. S. C. Barrow, Shreveport, La.
2. "The Value of X-Ray Examination of Stomach and Duodenum to the General Practitioner," Dr. Adolph Henriques, New Orleans, La.
3. "X-Ray Examination of the Solon," Dr. Leon J. Menville, New Orleans, La.

SECTION ON PUBLIC HEALTH AND SANITATION.

Dr. M. W. Swords, New Orleans, La., Chairman.

1. "Conservation of the Health of the Child," Dr. W. S. Leathers, Jackson, Miss.
Discussion, Dr. F. J. Underwood, Jackson, Miss.
2. "Malaria Control in Alabama," Dr. S. W. Welch, Montgomery, Ala.
Discussion, Dr. K. E. Miller, New Orleans, La.
3. "Venereal Disease Control," Dr. A. T. McCormack, Louisville, Ky.
Discussion, Dr. L. C. Scott, New Orleans, La.
4. "Health Relations of Louisiana to Countries of South America," Dr. Oscar Dowling, New Orleans, La.
5. "Group Care of Children," Dr. Maud Loeber, New Orleans, La.

SECTION ON EYE, EAR, NOSE AND THROAT.

Dr. A. L. Whitmire, Chairman, New Orleans, La.

1. "The Ear, Nose and Throat Man and the General Practitioner," Dr. Wm. Patton, New Orleans.
2. "A New Technique for the Treatment of Chronic Suppurative Otitis Media," Dr. M. P. Boebinger, New Orleans.
3. A Paper, Dr. Clyde Lynch, New Orleans.

THE COMMITTEE OF ARRANGEMENTS OF THE LOUISIANA STATE MEDICAL SOCIETY for the coming meeting in New Orleans, next April, is already actively engaged in making the necessary preparations for what it believes will be the largest and most successful meeting that this Society has ever held.

Besides the Commercial Exhibit, which promises to be of more than usual importance and interest and which will be roomy and readily accessible, a space just as conveniently located to be used for the Scientific Exhibits will be provided and the Committee hopes that the members of the Society will help to make this new feature a success by bringing with them or by sending in care of the Committee, Hutchinson Memorial Building, 1551 Canal street, new instruments, appliances, X-ray negatives, pathological specimens, or photographs of interesting cases. This exhibit can be made highly instructive and should be one of the important features of the meeting. Send exhibits to Dr. Amedee Granger, Chairman.

It is too early at this time to speak of the entertainment features other than to assure the out-of-town members that they and their ladies will be taken care of in a manner thoroughly in keeping with the best traditions of our meetings and that the annual stag affair this year will be a REAL BAMBOULA, with plenty of good things to eat and lots of amusement.

THE SEVENTH CONGRESSIONAL DISTRICT. The Seventh District Medical Society met at Crowley on Thurs., Feb. 15th. Headquarters were at the First National Bank Building. The meeting was well attended. The scientific program was preceded by a sumptuous banquet tendered the District Society by the active, enthusiastic Acadia Parish Medical Society and was served by the ladies of the M. E. Church, South. The musical entertainment was of a high character and contributed large-

ly to the feast. The scientific program, at which Dr. Craig presided and Dr. Morgan acted as secretary, follows:

Dr. D. C. Iles, Lake Charles: "Personal Experience with Tonsillectomy by the Schlender Method."

Dr. Harold G. F. Eduards, Lafayette: "X-ray Treatment of Diseased Tonsils."

Dr. George J. Dempsey, New Orleans: "Affairs of Bureau of Vital Statistics."

Dr. Maurice Gelpi, New Orleans: "Case Reports."

Discussion was followed by the election of officers, which will be announced later.

UNITED STATES CIVIL SERVICE EXAMINATION. The United States Civil Service Commission announces the following open competitive examination: Junior Medical Officer and Assistant Medical Officer (Roentgenology; psychiatry). Medical Officer (Tuberculosis, neuropsychiatry, internal medicine and diagnosis, physiotherapy). Applications will be rated as received until the close of business on July 3. The examinations are to fill positions in the Indian service, the Coast and Geodetic Survey, the Public Health Service, and the Veterans' Bureau. Competitors will not be required to report for examination at any place, but will be rated on the subjects of education and training, weighted at 30%, and experience, weighted at 70%. Definite specifications as to education and experience requirements, and salaries and allowances, are given in the printed announcement, which will be furnished upon request. Full information and application blanks may be obtained from the United States Civil Service Commission, Washington, D. C., or secretary of the board of U. S. civil service examiners at the post office or customhouse in any city.

THE ST. TAMMANY PARISH MEDICAL SOCIETY met on Thursday the 11th, 1923, at Covington, La. The attendance was large. The society entertained at dinner at the Central Hotel. The following officers were elected for 1923:

Dr. J. K. Griffith, President; Dr. G. A. Pennington, Vice-President; Dr. S. R. Leighton, Secretary; Delegate to Louisiana State Society, Dr. J. F. Polk; alternate, Dr. T. F. Young, Jr.

Addresses were made by Dr. Paul Gelpi, President of the State Society; Judge Prentiss Carter, Mr. D. H. Mason and Dr. W. L. Stevenson.

AT TULANE UNIVERSITY: The Bulletin of the Société Nationale de Chirurgie (Paris, January 16, 1923) announces the election of Professor Rudolph Matas, of Tulane University, as corresponding member of the society. This association was founded in 1843. Its membership is strictly limited, and it enrolls the greatest names in the history of surgery in France. Its published proceedings (Bulletin et Mémoires) are known all over the world and are reckoned among the most valuable repositories of surgical knowledge and opinion.

Dr. Matas has also been notified of his election "by acclamation" on December 15, 1922, as a member of the Royal Academy of Medicine of Barcelona, Spain.

UNITED STATES CIVIL SERVICE EXAMINATION. Graduate Nurse, Graduate Nurse (follow-up). Applications will be rated as received until July 3, 1923. The United States Civil Service Commission announces an open competitive examination for graduate nurse, and graduate nurse (follow-up), for filling vacancies in the United States Veterans' Bureau and in the Indian and Public Health services.

Dr. George Dempsey, New Orleans, and Dr. Maurice Gelpi, New Orleans, attended the first meeting of 1923 of the Seventh District Medical Society at Crowley, on February 15th.

UNITED STATES CIVIL SERVICE EXAMINATION. Assistant Bacteriologist (food products). Receipt of applications to close March 6, 1923. The United States Civil Service Commission announces an open competitive examination for assistant bacteriologist. Vacancies in the Bureau of Plant Industry, Dept. of Agriculture, Washington, D. C., at \$2,040 to \$2,500 a year (plus "bonus"), and vacancies in positions requiring similar qualifications, at these or higher or lower salaries, will be filled from this examination, unless it is found in the interest of the service to fill any vacancy by reinstatement, transfer, or promotion.

NAVY ADOPTS NEOARSPHENAMINE. The following letter of Rear Admiral E. R. Stitt, Medical Corps, United States Navy, was approved on Aug. 7, 1922, by the Bureau of Medicine and Surgery, in charge of Rear Admiral W. C. Braisted, Wash-

ington, D. C., and published for the information of the medical officers of the United States Naval Service, in the United States Naval Medical Bulletin, October, 1922:

July 7, 1920.

"To the Bureau of Medicine and Surgery:

"Subject: Recommendation that neoarsphenamine be substituted for arsphenamine in connection with use on board ships and at certain stations of the navy.

"1. I would recommend that the use of arsphenamine be discontinued on board ships of the navy and in its place to substitute neoarsphenamine. This same recommendation would apply to stations and smaller hospitals.

"2. In the larger hospitals where facilities for the administration of arsphenamine are satisfactory, the choice between arsphenamine and neoarsphenamine should be left to the discretion of the commanding officer.

"3. This recommendation is made for the following reasons:

"(a) In discussing fully this matter with the director of the hygienic laboratory he is of the opinion that most of the accidents attending the use of arsphenamine have been connected with errors in technic. In view of the simplicity of technic when using neoarsphenamine, many untoward results would be eliminated.

"(b) In the clinic of the Brady Institute, neoarsphenamine is used exclusively, and Dr. Young and his associates are unable to note any lessened therapeutic efficiency with this drug than when arsphenamine is used."

AT THE NEW ORLEANS POLYCLINIC, Graduate School of Medicine, Tulane University: In spite of still unsatisfactory financial conditions generally, the attendance at this school for the current session continues on a par with previous sessions and to all appearances will surpass last year.

IN THE EIGHTH CONGRESSIONAL DISTRICT: The Eighth Congressional District collaborator was sick in bed with an attack of influenza this time last month, and was therefore unable to send anything in to the Journal.

Dr. J. M. Oglesby and Miss Angela Leake were quietly married on December 20th, 1922. They are at home on the corner of Polk and Chester. The Journal extends felicitations and best wishes.

The regular meeting of the Rapides Parish Medical Society was postponed from Monday, February 5th, to Tuesday, February 13th, on account of unusually severe weather. The program consisted of a paper by Dr. R. B. Wallace entitled "Super-numerary Ribs," and another paper by Dr. George C. Antony.

In establishing the office of District Collaborator, it was the intention of the management of your Journal to make its subject matter more generally representative of the respective territories "back home," so that the official organ of the State Medical Society might be of more complete and direct service to its sustaining membership. That this purpose has not been more fully realized is due to the fact that while almost every one turns to the district happenings first thing to read the news, no one takes it upon himself to help gather some of this news by reporting to their district office medical items of interest. Thus the Collaborating Editor is left entirely dependent upon only such occurrences as may transpire within the limited precincts of his own personal observation.

Beginning with the April number of the Journal, a further effort will be made to improve this situation. The secretary of the Medical Society is requested to mail news items to this office March 12th to 15th from each of the following parishes: Sabine, Natchitoches, Winn, LaSalle, Vernon, Grant, Avoyelles, and Rapides. If the parish in which you live is not organized, response will be appreciated from any doctor who may read this.

If this request fails to secure an abundant response, an important announcement will appear in the April issue of the Journal, which should immediately interest every parish in the realm.

NATIONAL MUSEUM REPORTS NEW AND VALUABLE ACCESSIONS. The secretary of the Smithsonian Institution, in his recently issued annual report for the year ending June 30, 1922, gives a prominent place and favorable mention to the collections of South American insects received by the United States National Museum and to the group of rare and interesting live specimens of South American birds and mammals, donated to the National Zoological Park, through Dr. Mann, an associate of Dr. H. H. Rusby in his recent South American journey.

PROCEEDINGS OF THE AVOYELLES PARISH MEDICAL SOCIETY: The Avoyelles Parish Medical Society met at

Marksville, Thursday, January 25, 1923, at 10 o'clock A. M. Dr. Phillip Jeansonne, president, presided. The secretary, Dr. S. J. Couvillon, was at his desk.

The following physicians answered the roll call: Drs. G. R. Beridon, Leonard Chatelain, W. A. Quirk, Philip Jeansonne, R. G. Ducote, G. R. Fox, S. J. Couvillon, Sylvin de'Nux, A. T. Barbin W. F. Couvillon, J. W. Plauche.

Dr. George R. Beridon, of Hessmer, was elected President; Dr. Sylvin de'Nux, of Marksville, Vice-President; Dr. S. J. Couvillon, of Moreauville, was re-elected Secretary and Treasurer. Dr. R. G. Ducote, of Bordelonville, was made the delegate to the 1923 State Meeting, with Dr. Philip Jeansonne, of Plaucheville, the alternate.

The chair made the announcement that owing to the death of Dr. Thomas A. Roy, one of the society's most active members, which occurred the evening previous, the society would dispense with its clinical program and adjourn at 12 M. and in a body repair to the home of the deceased at Mansura to pay our last respects to the departed confrere and offer condolences to the bereaved family. A wreath bearing the inscription from "Avoyelles Parish Medical Society" was conveyed to the home preceding the arrival of the society members.

The chair appointed a committee, composed of Dr. Beridon, Dr. Quirk, Dr. de'Nux, to draft resolutions of sympathy and condolences over the death of Dr. Roy and forward a copy to the family, to the Avoyelles journals for publication and one to appear in the proceedings of the society.

A resolution offered by Dr. W. F. Couvillon, duly seconded, that all physicians of standing of Avoyelles who have attained the age of 70, be made honorary members of the Avoyelles Parish Medical Society.

The question of the "renewal license law" was casually dealt with and a resolution presented by Dr. G. R. Fox, duly seconded, that the society as a unit refuse to pay the tax, which is regarded by the majority of the physicians of this state as unconstitutional, since it has been and still exists the custom that all applicants coming before the State Board of Medical Examiners were made to pay a fee to be examined and to be licensed to practice medicine in all of its branches in the State of Lou-

isiana, which fee furnishes adequate funds for the functioning of the board without additionally taxing the overtaxed physician.

Drs. Fox, Barbin and Couvillon were made a committee to draw up resolutions to that effect and to present them at the next meeting, copies of which to be sent into proper channels seeking to the abolishment of this law.

Through the request of Dr. S. J. Couvillon, counsellor for the State Medical Society, the chair appointed Dr. W. F. Couvillon, Dr. W. A. Quirk, Dr. Philip Jeansonne on a "membership committee" with a view of inducing every physician of ethical standing in Avoyelles to become members of the State and Parish societies.

The society adjourned to meet the first Thursday in April at Hessmer.

ANNUAL MEETING OF THE EYESIGHT CONSERVATION COUNCIL OF AMERICA: The Eyesight Conservation Council of America held its annual meeting in New York City on the evening of February 6th at the Pennsylvania Hotel. The meeting was addressed by Homer E. Smith, M.D., Fellow of the American College of Surgeons and assistant surgeon of the Manhattan Eye, Ear, Nose and Throat Hospital.

ALL THOSE INTERESTED are cordially invited to be present at the Annual Congress on Medical Education, Medical Licensure, Public Health and Hospitals, March 5, 6 and 7, 1923, Florentine Room, Congress Hotel, Michigan Avenue and Congress Street, Chicago.

WHY NOT MOTOR TO THE AMERICAN MEDICAL ASSOCIATION CONVENTION at San Francisco, June 25 to 29? Many motorists in single cars, small parties and motor caravans from various parts of the United States are already in correspondence with the California headquarters of the convention. California is the motorists paradise. Any part of the state is now easily accessible from anywhere. For those interested in this form of travel nothing could be more delightful than to combine vacation and pleasure by coming from anywhere to the American Medical Association Convention by motor. Address communications to Dr. W. E. Musgrave, California Headquarters 1923 American Medical Association Convention, 806-9 Balboa Bldg., San Francisco.

AT THE MUNICIPAL HEALTH DEPARTMENT, CITY OF NEW ORLEANS: Combatting diphtheria was the major activity of the Health Department during the month of December, 1922. There were 57 active cases on the books December 1st; on December 10, 72 cases, which was the highest number. December 31 closed with 40 active cases on the books. Deaths recorded from this disease in December number 7.

The medical staff takes cultures from the patient and contacts before the case is dismissed from sanitary control. The City Board of Health will furnish, free of any cost, material for Shick testing and toxin-antitoxin immunization to any physician who applies for same.

SIXTH CONGRESSIONAL DISTRICT: The regular monthly meeting of the East Baton Rouge Parish Medical Association was held at the Istrouma Hotel February 14. The members of the East Baton Rouge Parish Graduate Nurses' Association were invited to attend the meeting as guests of the society. Dr. Tom Spec Jones read a paper on nursing which covered the subject from its incipency to the present time, and proved very interesting to both nurses and doctors. The president of the nurses' association, Mrs. Kreiger, who is also superintendent of the Baton Rouge Sanitarium, then read the last annual report of the Baton Rouge Sanitarium, which gave a clear outline of the work done in that institution during the year of 1922.

A resolution inviting the Louisiana State Medical Society to hold its 1924 meeting in Baton Rouge was unanimously adopted and the delegates to the State Society instructed to bring the meeting to Baton Rouge.

EYESIGHT CONSERVATION COUNCIL PROGRAM FOR EYESIGHT CONSERVATION IN SCHOOLS. Eye conservation is being carried into the public schools of the country in a very practical way as a part of the national campaign by the Eyesight Conservation Council of America, to better the health of America's millions of school children and industrial workers. There have been distributed to superintendents throughout the country, copies of Eyesight Conservation Bulletin No. 2, which presents a program for eyesight conservation day in schools. The Council is enlisting the services of the teachers in making visual

accuity tests, instructions for which are fully outlined in the bulletin.

TO THE FELLOWS OF THE AMERICAN COLLEGE OF SURGEONS: The Seventh Annual Clinic Week of The American Congress on Internal Medicine, will be held under the direction of the American College of Physicians in the amphitheatres, wards and laboratories of the leading institutions for practice and research in Philadelphia, April 2-7, 1923.

"The advantages and privileges of the sessions are available to a limited number of our surgical confreres. "Guest tickets," admitting the holder to all features of the week's work, will be issued, upon application to the secretary-general, at the nominal rate of five dollars. Requests should be made immediately. Hotel headquarters: Belevue-Stratford. Address all inquiries respecting "guest tickets," hotels, program, railway rates, etc., to the secretary-general, Frank Smithies, secretary-general, 1002 N. Dearbon Street, Chicago, Ill."

JAPANESE MEDICAL COMMISSION TO VISIT THE UNITED STATES. A recent cable dispatch from Tokyo announces the appointment of Baron Yoshihiro Takagi, chief surgeon and professor of surgery in the Tokyo Charity Hospital and Medical College, as a member of a commission of six Japanese doctors who will arrive in the United States early in March as guests of the Rockefeller Foundation for the purpose of studying American and Canadian medical institutions and methods.

The Japanese have made notable contributions to the progress of scientific medicine. The visit of this commission will give to American medical men a welcome opportunity for exchange of ideas with a group of scientists whose medical researches have given an international reputation to the hospitals and institutes with which they are associated.

THE OUACHITA PARISH MEDICAL SOCIETY met at its regular meeting with Dr. J. E. Walsworth presiding. The following program was rendered:

Dr. C. U. Johnson presented a case of variecelliform syphilis which opened an interesting discussion. Neuro-syphilis, extra-genital chancres, the varieties of spirochetes, whether or not to do an adenectomy in the complicating adenitis of syphilis, the

treatment and the management of cases entered into the general discussion.

Dr. F. C. Bennett read a paper on "The Eye as a Diagnostic Factor in Cerebral Conditions." He said that "eye symptoms alone must not be considered conclusive but must be considered in connection with other symptoms. Eye symptoms are especially valuable in the diagnosis of cerebellar and labyrinthine lesions."

"Choked disc alone in cranial trauma is not sufficient to justify decompression." "Given a case of cranial trauma, choked disc, high and rising blood pressure, the indications for decompression would seem to be clear and definite." "Patients under middle age with sudden diplopia due to paralysis of the external rectus are most probably syphilitic." "Thrombosis of the lateral or cavernous sinuses give definite eye symptoms and may occur in otitic abscess or general infectious fevers."

Dr. G. M. Snellings read a paper on "Convulsions in Children." He stated that the greatest frequency was from six months to two years. He also discussed the hypothesis of incomplete development of the inhibitory function in early life as being the most logical predisposing cause. Also have a spasmodic diathesis or a condition characterized by a degree of hyperexcitability of the central nervous system with a tendency of tonic and clonic spasms. Under the organic causes he discussed: Meningeal hemorrhages at birth or any condition causing inflammation of brain and meninges, tetanus neonatorum, embolism and thrombosis. Under the functional causes he discussed: Improper feeding, hyperpyrexia from acute infections, intestinal parasites together with enlargement of the thymus as being the most frequent causes and the enlarged thymus being the most frequent cause in the fatal cases.

Dr. C. U. Johnson reported a case from the free clinic of contracted pelvis that had a Cesarean section and on account of the failure of the uterus to contract, was necessary to do a hysterectomy.

OUACHITA PARISH MEDICAL SOCIETY OF LOUISIANA, MONROE, LOUISIANA. Official program for 1923. Meeting place, Clinic Building, St. Francis Sanitarium, Monroe, La. Time, First Wednesday evening of each month as listed below. Seven-thirty o'clock.

OFFICIAL PROGRAM FOR 1923.

February 7, 1923, Wednesday, 7:30 P. M.: 1. Convulsions in Children, Dr. G. M. Snellings; 2. Eye as Diagnostic Factor in Cerebral Localization, Dr. F. C. Bennett.

March 7, 1923, Wednesday, 7:30 P. M.: 1. Goitre of Medical Jurisprudence, Dr. C. P. Gray; 2. Future of Medicine, Dr. I. J. Newton; 3. Malaria, Dr. G. M. Trezevant; 4. Bright's Disease, Dr. C. U. Johnson.

April 4, 1923, Wednesday, 7:30 P. M.: 1. Proper Appreciation of the Internist, Dr. Ellis Powell; 2. Types and Diagnostics of Pneumonia, Dr. I. J. Wolff; 3. Industrial Medicine, Dr. C. L. Mengis.

May 2, 1923, Wednesday, 7:30 P. M.: 1. Empyemia, Dr. Geo. Wright; 2. Statistics Gathered from Experience in Life Insurance, Dr. A. H. Gladden; 3. Strangulated Hernia, Dr. C. H. Moseley; 4. Swamp Fever, Dr. J. R. Ferguson.

JUNE, JULY, AUGUST VACATION.

September 5, 1923, Wednesday, 7:30 P. M.: 1. Mastotiditis, Dr. J. P. Bowen; 2. Maxillary Empyemia, Dr. P. L. Perot; 3. Burns, Dr. R. W. Faulk; 4. Management of Normal Labor, Dr. J. T. French.

October 3, 1923, Wednesday, 7:30 P. M.: 1. Syphilis, Dr. J. B. Vaughan; 2. Fractures, Dr. R. W. O'Donnell; 3. Diarrhea of Infants, Dr. O. A. Hill.

November 7, 1923, Wednesday, 7:30 P. M.: 1. Co-operative Medical Service, Dr. Thos. E. Wright; 2. Intestinal Obstruction, Dr. D. I. Hirsch; 3. Acute Otitis Media, Dr. A. L. Peters; 4. Appendicitis, Dr. A. G. McHenry.

December 5, 1923, Wednesday, 7:30 P. M.: Annual Banquet, Election of Officers, 1924; 1. Address by Retiring President, Dr. J. E. Walsworth; 2. After Care of Surgical Patients, Dr. J. L. Adams; 3. Uterine Tumors, Dr. J. Q. Graves; 4. Typhoid Fever, Dr. L. B. Newsom; 5. The Business End of Medicine, Dr. E. G. Calvert.

LIST OF COMMITTEES APPOINTED by the President of the Orleans Parish Medical Society to serve for the year 1923:

Judiciary Committee: Dr. Homer Dupuy, Chairman; Dr. R. Bernhard, Dr. S. M. Blackshear, Dr. J. Signorelli, Dr. E. Moss.

State Medicine and Legislation: Dr. F. R. Gomila, chairman; Dr. B. A. Ledbetter, Dr. P. J. Gelpi, Dr. J. A. Danna, Dr. J. A. O'Hara.

Scientific Essays Committee: Dr. P. Graffagnino, chairman; Dr. H. W. E. Walther, Dr. C. S. Tuller, Dr. L. J. Menville, Dr. J. F. Dicks.

Auditing Committee: Dr. J. E. Landry, chairman; Dr. E. D. Martin; Dr. J. M. Batchelor, Dr. L. A. Fortier, Dr. A. Henriques.

Library Committee: Dr. S. C. Jamison, chairman; Dr. M. J. Lyons, Dr. T. A. Maxwell, Dr. E. A. Ficklen, Dr. P. T. Talbot.

Condolence Committee: Dr. S. T. Mayo, chairman; Dr. A. O. Hoefeld, Dr. W. H. Seemann, Dr. P. B. McCutcheon, Dr. W. A. Reed.

Criminal Abortion Committee: Dr. P. Michinard, chairman; Dr. E. L. King, Dr. W. Metz, Dr. H. V. Sims, Dr. R. B. Harrison.

Employes Compensation Committee: Dr. H. E. Bernadas, chairman; Dr. J. T. O'Ferrall, Dr. F. T. Beatrous, Dr. W. A. Love, Dr. J. O. Weilbacher.

Hospital Abuse Committee: Dr. M. P. Boebinger, chairman; Dr. J. A. Estopinal, Dr. P. Graffagnino, Dr. W. T. Patton, Dr. W. W. Leake, Dr. P. J. Kahle.

House Committee: Dr. C. P. Brown, chairman; Dr. B. R. Heninger, Dr. H. E. Miler, Dr. C. C. Bass, Dr. M. J. Lyons.

Librarian's Report Committee: Dr. A. E. Fossier, chairman; Dr. J. F. Eunn, Dr. R. C. Voss, Dr. I. Tedesco, Dr. T. F. Kirn, Dr. G. H. Upton, Dr. H. P. Jones.

President's Report Committee: Dr. E. H. Walet, chairman; Dr. R. Matas, Dr. A. A. Pray, Dr. C. W. Duval, Dr. F. W. Parham, Dr. C. P. Holderith, Dr. E. D. Fenner.

*Publication Committee:** Dr. Lucien A. LeDoux, chairman; Dr. M. J. Gelpi, Dr. H. R. Unsworth, Dr. Chas. Chassaignac, Dr. L. H. Landry.

Relief Committee: Dr. H. Daspit, Chairman; Dr. P. Bohne, Dr. J. Menendez, Dr. A. Jacobs, Dr. W. A. Gillaspie, Dr. F. A. Larue, Dr. M. Couret, Dr. J. M. Koelle.

Secretary's Report Committee: Dr. W. H. Robin, chairman; Dr. S. Wilson, Dr. B. F. Galant, Dr. O. C. Cassegrain, Dr. J. B. Larose.

Treasurer's Report Committee: Dr. J. J. Wymer, chairman; Dr. Kotz Allen, Dr. A. H. Gladden, Dr. Frank Gallo, Dr. J. M. Hountha, Dr. E. S. Lewis, Dr. J. G. Harz.

Public Health Committee: Dr. G. F. Roeling, chairman; Dr. A. LeDoux, Dr. J. J. Irwin, Dr. H. E. Nelson, Dr. D. N. Silverman.

GOV. PARKER ENDORSES HOSPITAL DRIVE. At a recent meeting of the board of administrators of Charity Hospital New Orleans, Gov. Parker heartily endorsed the campaign for raising a fund of \$1,800,000 for the enlargement of the institution's facilities. National Hospital Day, May 12, is the day that has been set for launching the campaign. Workers in the drive will cover the entire state. Every man, woman and child in Louisiana will be asked to give a dollar. Pres. F. W. Evans, of the board, requests that all who can give more should "give until it hurts" in order to support Charity Hospital in a way in which it should be supported.

Recently over 300 single beds in the hospital have been occupied by two patients each, such has been the demand for medical care by the sick of the State. Mr. Wm. Pfaff, chairman of finance, said that if the people of the State could see this overcrowding there would be no difficulty in raising the money.

THE ASSIGNMENT OF COL. JOHN B. ELLIOTT, M. O. R. C., to the 87th Division, as commanding officer of the 312th Medical Regiment and divisional surgeon, with headquarters in New Orleans, has been announced by the War Department.

DR. JOSEPH O'HARA, coroner of New Orleans, was recently presented with a silver service by his many friends of the city, for faithful services rendered.

AN APPROPRIATION OF \$650,000 has been approved by State authorities for the Leper Hospital at Carville, Iberville Parish, La. This will be sufficient funds to add 300 beds to the institution, which are much needed.

CONSTRUCTION OF NEW PROFESSIONAL BUILDING opposite Touro Infirmary is now proceeding without further delays. G. L. Miller & Co., Atlanta, Ga., are financing the structure.

DR. LOUIS LEVY has opened an office building for physicians at 2100 Tulane Ave. Dr. Levy occupies the first floor and on the second floor office suites for pathologist, urologist, orthopedist and eye, ear, nose and throat specialists are available.

HOTEL DIEU SISTERS HOSPITAL, New Orleans, has purchased twenty-five properties at cost of \$200,000 bordering upon Tulane Avenue and Bolivar Street, which land they propose to use for their new building.

TOURO INFIRMARY, New Orleans, will soon order work upon their new additional wing. The new building is to contain the new clinics as well as to add 125 more ward beds.

DEATHS: Dr. T. A. Roy, aged 56, died at Mansura, La., January 24, 1923. Dr. Roy served as a member of the state board of health for the past fourteen years, and at the time of his death was vice-president of the Louisiana State Medical Society.

Dr. J. D. Grayhill, aged 74, died in New Orleans February 2, 1923.

THE LOUISIANA STATE MEDICAL SOCIETY

Will Meet in

NEW ORLEANS ON APRIL 10, 11 AND 12

BOOK REVIEWS AND NOTICES.

All new publications sent to the JOURNAL will be appreciated and will invariably be promptly acknowledged under the heading of "Publications Received." While it will be the aim of the JOURNAL to review as many of the works accepted as possible, the editors will be guided by the space available and the merit of respective publications. The acceptance of a book implies no obligation to review.

Handbook of Electrotherapy, by Burton Baker Grover, M.D. F. A. Davis Co., Philadelphia, 1921.

The author treats the subject in a comprehensive and interesting manner. The chapter on Hyperpiesia deserves attention. This handbook will be read with profit by practitioners and students.

A. G.

Starvation (Allen) Treatment of Diabetes, by Lewis Webb Hill, M.D., and Rena S. Eckman; with an introduction by Richard C. Cabot, M.D. W. M. Leonard, Boston, 1921. 4th ed.

The fourth edition of this book is proof of its popularity. The so-called Allen treatment of diabetes is well explained in this small volume, in such language as to be intelligible to one with only limited knowledge of dietetics. The diet lists contained in this volume, as well as the recipes for diabetic dishes will be found helpful, not only to diabetic patients but also to the general practitioner, in prescribing a diet for his diabetic patients.

A. E.

What to Do in Cases of Poisoning, by William Murrell, 12th ed., revised by P. Hamill, M.D., D.Sc., F.R.C.P. New York: Paul B. Hoeber, 1921.

This little volume, in addition to the actual treatment of poison cases, gives much information of value.

It is, of course, impossible to compile a volume on any subject with which everyone can agree in its entirety and the reviewer finds some suggestions in the work under discussion that do not meet with his own ideas; for example, the use of apo-morphine in opium poisoning, which, if used at all, should certainly be used with extreme caution and only when the case is seen early.

Taken as a whole, the volume is well worth a place in the physician's and druggist's library.

O. W. B.

New Pocket Medical Formulary, by William Edward Fitch, M.D., 3rd ed., rev. Philadelphia: F. A. Davis Co., 1921.

This volume, like all similar works, serves a useful purpose and the one under discussion particularly shows much care and ability in its preparation. The volume not only contains an unusually large number of prescriptions but includes much other valuable information that has been digested for convenient use.

In the way of adverse criticism the reviewer will say that he regrets to see the use of many obsolete terms, and while these have been taken from highly authoritative sources, at the same time in transcribing them it would probably have been better for the author to have made the necessary changes and conformed the work generally to meet the accepted standards in prescription writing.

Illustrative of this might be mentioned, compound tincture of iodine, nitro-muriatic acid, ointment of petrolatum, and many others. The pharmacopeia has definitely fixed proper names for these drugs.

There is some fault to be found with the Latin, for example, putting the adjective before the noun it qualifies. Matters of this kind do not directly interfere with the value of the book and can easily be corrected in future editions.

O. W. B.

Opiate Addiction, by Edward Huntington Williams, M.D. New York: Macmillan Co., 1922.

This little volume contains much excellent matter. The style of diction is good and the volume, from the standpoint of its printing, paper, type, etc., leaves nothing to be desired. It is really pleasant and profitable reading.

In the way of adverse criticism the reviewer will state that he regrets to see the use of the old patent medicine names of many of the drugs that are discussed, such, for example, as veronal, trional, etc. It would seem desirable for the medical profession to confine itself, as far as possible, to the use of the proper names, where there is a proper name, in discussing drugs. This would particularly apply where the drug in question is included in the pharmacopeia.

There are some parts of the text with which some of us will find it impossible to agree. If we understand the writer correctly, his contention is that the Federal narcotic law has not resulted in any material benefit. There are many physicians today, busily engaged in their work from morning till night, who do not know of a single addict—the reviewer can place himself in this list, while in times past they were only too common. It will not be hard to find active and successful physicians who have not had an application for the illegitimate use of morphine or cocaine by an addict in the past two years.

It is possible that in the underworld the drug traffic goes on largely unabated, but among the substantial elements of society the reduction in the use of these drugs has been more than most of us had even hoped for. The law has not been in force sufficiently long for its full value to be realized but the accomplishments so far have been sufficient to justify the statement that the reviewer has often made, namely: That it is one of the two greatest laws ever written in the history of the world.

O. W. B.

Origin and History of All the Pharmacopeia Vegetable Drugs, Chemicals and Preparations, with Bibliography, by John Uri Lloyd. Cincinnati, Caxton Press, 1921. Vol. 1 Vegetable Drugs.

This volume is a distinct addition to medical literature. It is well in keeping with other matter that has come from the pen of this distinguished author and scientist. Those of us who have had the privilege of a personal acquaintance with Dr. Lloyd feel a particular interest and confidence in any treatise that bears his name and the volume under review is everything that could be expected.

The works on materia medica are unfortunately deficient in drug history, in fact, this is practically demanded by teachers on this subject, as the time allowed for the course in most medical schools barely permits of the absolute essentials and the present tendency seems to be rather to curtail the meagre allowance of time that has obtained in the past.

In fact, there is so little talk about the essential medicines that it seems almost unfair to refer to some of our schools as medical.

The volume under review offers an ideal supplement to the literature that the doctor has had available in the past. It is not only overflowing with information but Dr. Lloyd has succeeded in carrying into its compilation his usual delightful style, which makes it intensely interesting reading.

It is cordially and unqualifiedly recommended to all students of medicine and its allied branches.

O. W. B.

Protein Therapy and Nonspecific Resistance, by Wm. F. Peterson, M.D. The Macmillan Company, 1922, N. Y.

This text, consisting of 256 pages, is a valuable compilation of the data appertaining to nonspecific immunological and therapeutic

factors. The book is nicely arranged in various chapters considering different diseases and discussing those factors related to the nonspecific phase of each.

Peterson and Peterson and Jobling have contributed much of an original character to this subject and for this reason the author is all the more in a position to deal with this much discussed subject among laboratory workers.

While the text proper contains a great deal of interest and of value, the book is very much enhanced by the careful collection of literature consisting of over 50 pages of references which the author has compiled.

W. H. H.

Aids to Chemistry, by William Partridge, F.I.C. 1921, William Wood & Company, New York.

This book of two hundred and seventy pages is intended for students who have had a course in chemistry and wish to refresh themselves as to the definition of the basic principles of the science.

The various elements are very briefly discussed and their most common salts mentioned. A relatively large space is devoted to normal organic compounds as well as synthetic combinations, including the principal alkaloids and certain other vegetable products. It is of value chiefly as a compend.

J. A. L.

Neoplastic Diseases: A Treatise on Tumors, by James Ewing, A.M., M.D., Sc.D. Second edition revised and enlarged. Philadelphia, W. B. Saunders Co., 1922.

As the title implies, this is indeed a treatise on tumors and covers the subject more thoroughly and minutely than any other American work. Every subject of neoplasia is considered carefully and at length, including the theories as to the etiology, the life history and pathology.

The work is divided into two great divisions entitled General and Special Oncology. Under the heading Special Oncology there are 40 chapters dealing not only with most of the types of neoplasms separately, but also considering the several varieties of neoplasm occurring in an organ or system. An effort is especially made to emphasize the many distinct clinical and pathologic entities within the great group of neoplasia.

It is profusely illustrated, there being over 500 drawings and photographs. These illustrations are very clear and well reproduced and add greatly to the clearness of the text.

One of the most valuable points of the book is the extensive bibliography which covers more than 43 pages of references and is so arranged that any one interested in neoplasms of a particular organ can easily find many references.

The volume is very full of valuable information and to one somewhat familiar with neoplasia is easily digestible, but the novice, the multiplicity of terms applied to neoplasms of the same cellular origin but slightly different histological and clinical characteristics leads to confusion. However, it should be in the library of every practitioner of modern medicine, surgery and pathology.

The author can well be proud of his handiwork.

J. A. L.

Diseases of Women, by Harry Sturgeon Crossen, M.D., F.A.C.S. Fifth edition, St. Louis: C. V. Mosby Co., 1922.

The fifth edition of this well-known and most excellent work lives up to the reputation established by its predecessors. The revision has been thorough, and in this task the author has been aided by several capable collaborators. Many new and most helpful illustrations have been added, bringing the total number almost to a thousand (to be exact, they number 934). Especial mention should be made of the photomicrographs, which are well done and are of course

of great assistance in arriving at a thorough understanding of the conditions described in the text.

As this is essentially a text-book of medical gynecology, the author very properly considers in great detail such matters as methods of examination, gynecological diagnosis and treatment (especially the non-operative), diseases of the external genitals and vagina, uterine displacements, pelvic inflammation, disturbances of function, etc. It is refreshing, in these operative days, to find a thorough discussion of the use of the various types of pessaries; the author seems to have rather a high opinion of the usefulness of these appliances in properly selected cases.

The chapter on "The Internal Secretory Glands in Relation to Gynecology," by Ehrenfest seems to condense practically all the available information which is worth while, and serves to emphasize the fact that we as yet know comparatively little about this extremely complicated subject of endocrinology. This chapter is very readable and is most timely.

By way of criticism, one might question the advisability of including chapters on the technique of abdominal section and post-operative care in a work which is predominatingly medical in type. Also, it would appear that some of the chapters are much too long, and could be advantageously subdivided, thus resting the eye of the reader and enhancing somewhat the general impression produced by the work. For example, chapter 1 covers 131 pages, and chapter 4 consumes 120.

From the mechanical point of view, the volume is very satisfactory, and the publishers are to be commended for the excellence of their work.

E. L. K.

PUBLICATIONS RECEIVED.

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- J. B. Lippincott Co., Philadelphia and London:** Nutrition of Mother and Child, by C. Ulysses Moore, M.D., M.Sc. (Ped.).
- William Wood & Co., New York:** Orthopedic Surgery, by Sir Robert Jones, K.B.E., C.B., and Robert W. Lovett, M.D., F.A.C.S.
- Washington Government Printing Office, Washington, D. C.:** Public Health Reports, Vol. 28, Nos. 1, 2, 3, 4.
- Miscellaneous:** High Frequency Practice, by Burton Baker Grover, M.D., The Electron Press, Kansas City. Participation of the Federal Government in Education, James J. Storrow, Boston.

REPRINTS.

- Linfogranulomatosis Venérea y Bubón Climático, by Prof. Dr. W. H. Hoffman. Méthode de Récupération Fontionnelle, by Dr. Gabriel Bidou. Dimol in the Treatment of Summer Diarrhoea in Infants, by A. N. M. Davidson, M.R., C.S., Eng. Aluminum—Potassium Nitrate in the Treatment of Suppurative Conditions, Particularly Osteomyelitis, by Max Thorek, M.D. Public Health Report, Nos. 762, 796.

STATISTICAL DATA FOR THE MONTH OF JANUARY OBTAINED FROM THE RECORDS OF CITY BOARD OF HEALTH.
BIRTHS.

January, 1923—	White	Colored
Male	312	141
Female	315	124
Totals	627	265
By Physicians		481
By Midwives		411
Grand Total		892
Stillbirths		54

DEATHS.

DEATHS.

	1921			1922	
	White	Colored		White	Colored
Male	184	124	Male	204	111
Female	150	114	Female	176	142
Totals	334	238	Totals	380	253
Under 1 year		69	Under 1 year		98

January, 1923—	Cases		Deaths	
	White	Colored	White	Colored
Diphtheria	92	4	4	0
Typhoid	25	7	5	2
Malaria	11	2	1	0
Scarlet Fever	17	0	1	0
Whooping Cough	37	3	3	0
Influenza	19	9	11	6
Measles	14	0	1	0
Cs. Meningitis	1	0	0	0
Tuberculosis	56	39	38	32

DEATHS.

January, 1923—	White	Colored
Cancer	30	11
Apoplexy	19	13
Endocarditis and Myocarditis	2	1
Angina Pectoris	4	1
Other Circulatory Diseases	96	54
Bronchopneumonia	14	18
Lobar Pneumonia	17	14
Other Respiratory Diseases	1	3
Diarrhoea and Enteritis	16	3
Appendicitis	5	1
Other Digestive Diseases	7	2
Acute Nephritis	7	2
Chronic Nephritis	22	17
All Other Genito-Urinary Diseases	3	5
Puerperal State	4	1
Malformations	3	5
External Causes	39	22

DEATH RATE PER 1,000 PER ANNUM FOR THE MONTH.

January, 1923—	Non-residents Excluded:	
White	17.07	14.94
Colored	27.17	23.01
Total	19.79	17.29

Deaths from premature births, violence, etc., are not excluded.

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ORIGINAL ARTICLES.

(No paper published or to be published in any other medical journal will be accepted for this department. All papers must be in the hands of the Editors on the tenth day of the month preceding that in which they are expected to appear. Reprints may be had at reasonable rates if a WRITTEN order for the same accompany the paper.)

THE NERVOUS SYSTEM IN SYPHILIS.*

By CLARENCE PIERSON, M.D., and EDW. M. LEVY, M.D.

In proportion to our medical knowledge of syphilis are the neurologist and psychiatrist called upon to assist in the consultation of this numerous class of afflicted humanity and the proper treatment of the same. Probably in the past decade or two greater laboratory strides in syphilis, its understanding and treatment, have been made than in any other disease. We are just now beginning to have a correct comprehension of this organism and its labyrinth of infections.

The earliest mention of neurosyphilis in literature is made by Leoncino in 1497, who described a paralysis as the result of syphilitic infection. During the sixteenth century many references were made showing that there was some appreciation of the relation of certain diseases of the nervous system to syphilis. Toward the end of the seventeenth century, syphilitic nervous diseases were apparently fairly well understood. In 1672 Willis gave the first description by which we could recognize gen-

*Read Before the Louisiana State Medical Society Meeting, April 11-13, 1922.

eral paresis. During the eighteenth century, many additional conditions were described. Progress along this line received quite a set-back by Hunter's declaration in 1787 to the effect that he had never observed syphilitic disease of the brain. The nineteenth century added many additional pictures leading up to the discovery of the organism in 1905.

How soon after the initial infection does syphilis attack the nervous system is still quite a moot question. It was formerly thought that the nervous system was affected in from two to twelve years. Evidence is gradually being accumulated to show that syphilis attacks the nervous system far more frequently and much earlier than was formerly believed. Improved methods of diagnosis, especially examination of spinal fluid, has made this possible. The Wasserman test, protein estimation, cell count, and the colloidal gold test has put the diagnosis on a definite basis instead of upon exclusive clinical signs, and have been the means whereby its earlier recognition has been made possible.

The clinical aspect however, is too outstanding classically to be underestimated, and has a bearing in certain instances equal, or significant in importance to any laboratory finding as yet at our command.

Cornaz¹ investigated the cerebro spinal fluid of 354 cases of syphilis in all stages. He found a positive Wasserman of the spinal fluid with lymphocytosis in a case of primary syphilis before the appearance of any secondary manifestations whatever. Also, in 76 cases of primary syphilis, with hard chancre and without secondary manifestations, the lymphocytes in the spinal fluid were increased in 35% of the cases.

Wile and Halsey² in a series of 221 cases, found that the spinal fluid showed some deviation from normal in 22%. The spinal fluid Wasserman became positive in some cases before it became positive in the blood.

Similarly, Nicalon³ examined the cerebro spinal fluid of 51 cases of primary syphilis prior to appearance of secondary manifestations. In 18 cases there was definite lymphocytosis of the spinal fluid. This lymphocytosis usually appeared in the third week. He also noted pupillary anomalies in 16 cases.

Fields, Pornell, and Maitland⁴ examined 624 luetic men, the majority in early stages and none of whom showed any obvious

sign of nervous system involvement, 18% showed undoubted abnormalities of central nervous system. If the doubtful cases were also included, the percentage would be far greater. In the series, of all men who had been affected for more than six months, 35% showed disease of the central nervous system. It must be borne in mind that this series included many cases seen in the first week of the disease. The abnormalities appeared in two cases before serum Wasserman became positive.

Wile and Marshall,⁵ in a study of spinal fluid in 1869 cases of syphilis in all stages, came to the conclusion that syphilis involves the nervous system very early and even seriously, without symptoms.

The large number of cases that have been studied along this line, all show corresponding findings, namely that the cerebro spinal fluid in cases of syphilis show abnormalities in a large percentage of cases and that these changes occur early, frequently before appearance of any secondaries, some claim **always** before appearance of any secondaries. From 25 to 35 per cent. of all people affected by syphilis have involvement of the central nervous system at one time or another. These facts are undisputed, but their interpretation has led to considerable controversy.

Ravaut⁶ contends that these early changes are transitory and of no great importance. Wile and Halsey² believe that these early changes are without great significance. On the other hand, Stokes⁷ believes that early lymphocytosis of spinal fluid points to involvement of the nervous system. Also Wile and Marshall⁵ concluded that if the nervous system is not involved early, it is not often involved later. Fordyce⁸ says: "The activity of a syphilitic process in the central nervous system is indicated much earlier, more accurately, and often only by cytologic changes in the spinal fluid."

Our belief in regard to this point is that the changes in the spinal fluid in cases of early syphilis point to definite involvement of the nervous system and must be regarded as such and treatment of such early cases should not be deemed sufficient as long as spinal fluid appears abnormal. At this point it is worthy of note that Nicalou³ stated that in a series of 18 cases of lymphocytosis in primary syphilis, in only one case did treatment cause lymphocytosis to disappear, in only three cases was

lymphocytosis affected by general treatment, although the treatment was sufficient to eradicate all secondary manifestations.

This is a very noteworthy observation and tends to confirm the view stated above.

In congenital syphilis, examination of the spinal fluid confirms the view already taken that definite abnormalities of cerebro-spinal fluid are demonstrated in cases in which evidence of central involvement was not previously suspected. In congenital syphilis some seem to think that a form of tolerance has been established, both on the part of the organism and on the part of the nervous system.

Jeans,⁹ in examining 214 cases of congenital syphilis, using lumbar puncture and clinical examination, concluded that one-third had involvement of the central nervous system.

Kingery¹⁰ examined the spinal fluid in 52 cases of congenital syphilis. 28% showed some abnormality of spinal fluid. In 21%, these spinal fluid changes were marked. It is therefore obvious that neurosyphilis occurs with extreme frequency in congenital syphilis.

Briefly, the manner in which syphilis attacks the nervous system in types, are:

1. Meningeal. 2. Vascular. 3. Parenchymatous. 4. Meningo-vascular. 5. Diffuse (meningo-vascular parenchymatous).

These types do not correspond to any clinical pictures, but neurosyphilis usually occurs in combinations of types in which one type predominates. Following the initial infection it is known that the spirochaetes are able to, and do invade every part of the body, including the nervous system. It is believed by some that the spirochaetes enter the central nervous system during the early course of the disease and lie dormant in various parts of the brain, but retain their vitality and become active later on in response to some unknown stimulus. This theory has a large following, but still remains unproven. If true, it is very important from a therapeutic standpoint (since early intensive treatment should then rule out the possibility of later neurosyphilis). Experience has not confirmed this observation. The other and opposing theory is that the spirochaetes may enter nervous systems from without at any time, depending upon whether or not they find a more resistant or less fertile soil.

As regards the clinical forms of neurosyphilis, it is not possible to even mention the more important here. Syphilis of the nervous system is so varied in its manifestations that its possibility as an etiological factor is frequently not considered sufficiently. It gives rise to many dissimilar pictures, which are constantly being added to. In this regard Jelliffe and White¹¹ aptly say: "The physician with his eye riveted on a clinical picture, be it amyotrophic lateral sclerosis, a failing memory, a persistent nervous weakness, an isolated cranial nerve palsy, a progressive muscular atrophy of the arm muscles, or a protracted sciatica, may readily overlook the fact that syphilis is the unique cause for these different syndromes." As one famous observer once stated: "He who knows syphilis, knows medicine."

Now as regards treatment. By way of preface let me say that lumbar puncture is an indispensable aid to the recognition of early or asymptomatic neurosyphilis. No case of syphilis should ever be treated and pronounced arrested unless lumbar puncture has been made at least once. It should be a routine procedure in all cases of syphilis, no matter what the symptoms, and by preference it should be performed as early as possible. Close observance of pupillary signs is perhaps nearly as important in diagnosis of neurosyphilis as lumbar puncture. By this means, neurosyphilis will be recognized much earlier and the chances of securing a cure will be greatly enhanced. It will also tend to prevent development of paresis and tabes, in which the chances of securing benefit by treatment are very doubtful at the best.

As to the method of treatment, each practitioner has his own particular method for treatment of syphilis in general, and also of neurosyphilis. The usual plan of treatment consists of the intravenous administration of salvarsan or neosalvarsan in varying amounts and at varying intervals, supplemented by mercury as inunction or injected intramuscularly, and also by iodides. Up to this point there is no divergence of opinion except as to method. However, some practitioners supplement this method by procedures which have as their object the introduction of medicinal substances usually in serum into direct contact with some part of the nervous system—either brain or spinal cord, usually spinal cord.

There has been considerable controversy as regards the necessity of intraspinal treatment and allied methods and its efficacy when used. It has been shown that arsenic injected intravenously appears in the spinal fluid in about 25 to 40 per cent. of cases, and very probably more. However, in certain cases it appears that the permeability of the meninges are affected. This lack of permeability is increased by the frequently added factors of a vascularitis and perivascularitis. In these cases, it is very probable that intraspinal treatment is necessary.

Intraspinal treatment has many ardent advocates who claim that it is the method of election in all cases of neurosyphilis and claim that results are far more encouraging than by other methods of treatment. Prominent among these are Schaller and Mehrtens, Gennerich, Solomon, Scott and Pearson. However, it must be said that the intraspinal method is not without danger, and numerous fatalities have resulted. In some series, the mortality has averaged from 10 to 15 per cent., and also it is not conclusive that this method of treatment is greatly superior to other methods.

However, to adopt a conservative view, intraspinal treatment should be restricted to obstinate early cases of neurosyphilis in which general treatment has no effect, and also to cases of long standing with organic changes.

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DISCUSSION.

Dr. Frank Dwyer (Jackson, Miss.): There are a few points in Dr. Pierson's paper that ought to be emphasized especially. One is that the spinal fluid findings in some cases are positive before the blood findings. That is contrary to the old idea of neuro-syphilis, which was that neuro-syphilis was a late affair occurring five or ten years later. That ought to give us considerable thought, because it necessarily would call for early lumbar puncture. Some say that this early neuro-syphilis is transitory. However, equally as good men claim it is a permanent thing. Some men claim it is a special type of organism that causes neuro-syphilis, and others claim it is not. There is good evidence to show that it might be a special kind of organism. However, there is only one way to determine neuro-syphilis and that is by lumbar puncture. Any case of syphilis before it is cured must have lumbar puncture. I have been in rather a good position to observe how much of that is done. I recall one case of a man who was treated and the doctor who treated him told him to wait four years and then it would be safe to marry. He waited four and a half years and his wife gave birth to a syphilitic child. Lumbar puncture should have been done there.

As regards the treatment of syphilis it is equally divided between intra-spinal and intra-venous. However, most authorities agree that intensive treatment will completely eradicate it. That seems to be about the consensus of opinion of the most conservative today.

Dr. Edwin Levy (Alexandria): The question of lumbar puncture has been brought out. This is usually done without any bad results, it does not require a great amount of preparation, and it gives more information than any other one thing.

As regards the question of different strains of organism causing neuro-syphilis, there has been a great deal of experimental work done to show that there are very likely different strains. The work done in France, especially by Marie and Levaditi, has shown that paretic blood that will produce syphilis in rabbits has a different incubation period than syphilis produced by spirochetes obtained from a primary lesion. Other evidence accumulated tends to show that it is perhaps a different strain that causes neuro-syphilis.

Dr. M. H. Foster (Alexandria): The treatment of tertiary syphilis remains unsatisfactory, and there is lack of agreement among syphilologists as to the best method to employ. In general they are divided into two schools, headed by Fordyce of New York, and Sachs of St. Louis, respectively. According to the former arsphenamin is given into the vein in the usual manner, then after a wait of one hour about 60 cc. of blood is withdrawn from any vein, and after standing in ice over night the clot is rejected, and the serum (approximately 15 cc.) is carefully centrifuged, and desensitized, then it is given into the spinal canal of the same patient.

Sachs contends, on the other hand, that the patient is quite capable of delivering his own autoarsphenaminised serum to the cerebro-spinal system if we but emphasize the demand. He therefore merely does a spinal tap one hour after the intravenous dose, and depends upon osmosis to do the rest through the choroidal plexus.

Immediately after my discharge from the army, it was my privilege to treat a number of patients by Fordyce's method with Dr. Trice on Dr. M. F. Engman's service at the Bernard Skin & Cancer Hospital in St. Louis, and since my return to Alexandria I have used both the Fordyce and the Sachs plan.

While I do not think that lumbar puncture should be made an indiscriminate routine, I do believe that its frequent use in the skillful hands of the discriminating operator is of great benefit both as a diagnostic and as a therapeutic procedure. Where I can establish the

diagnosis, and desire to begin treatment, it is my custom to give the arsphenamin in the vein, then wait about an hour and withdraw all the spinal fluid necessary for a complete laboratory study. By this means we can accomplish both diagnosis and treatment with the same puncture, and because arsphenamin has just been administered we do not run the same risk of initiating the intrathecal phase of the disease by extension from blood to spinal fluid that we would if the tap was not so guarded.

And finally, for the prevention of pain I use three needles. Using 1% novocaine, an infiltration wheal the size of a dime is made with a small hypodermic needle. Then I take a platinum needle of small gauge, which I have made to order, 4 inches long, attach it to the syringe and carry this slowly down to, but not into the spinal canal, injecting novocaine into the tissues as the needle goes forward. This needle is immediately withdrawn and pressure made over the area with the ball of the thumb for a few moments, after which a small spinal needle may be inserted without pain, directly into the spinal canal.

DIARRHEA AND DISTURBANCES OF DIGESTIVE FUNCTIONS.*

By DANIEL N. SILVERMAN, M.D., New Orleans.

While diarrhea is often found as a symptom associated with many diseases of the digestive tract and with some changes in organs without this system, there are certain unusual groups of cases wherein this particular symptom represents much serious disturbance of the normal digestive functions. As is well known and realized the factors necessary to determine proper and complete digestion of food are many and at least complicated in their respective activities. However, I shall attempt to show some of the influencing agents of improper digestion resulting from diseased conditions in organs possessed of digestive properties and producing much distress by frequent evacuations of the bowels. The close relationship and interdependency existing between these organs in question, namely the stomach, pancreas, gall bladder and liver, and the intestines has long been recognized and spoken of by various authors but only very recently clinical and experimental evidence has shown how and where many of the agents of digestion and absorption come to play their respective parts. And, today unlike yesterday, because of greater facilities for proper analyses interferences with proper action of these agents require much more study and investigation for a determination of definite and convincing causes. These principles can be more clearly understood when one gets an insight into the diagnostic studies made of individual cases

*Read Before the Louisiana State Medical Society Meeting, April 11-13, 1922.

of diarrhea associated with deficiencies of digestion. While the true achylic diarrhea so called gastrogenic is considered somewhat unusual by many writers it is not infrequently that one sees the association of gastric anacidity with loose bowels due to other causes. The increased intestinal peristalsis may in each instance be due more or less to some deficiency in the amount of hydrochloric acid secreted, but in numerous instances the achylia like the deficiency in pancreatic secretion and in intestinal digestion has a common cause. Hemmeter stated "that no case of chronic diarrhea should pass without an analysis of the stomach contents." For more complete diagnosis and often of more importance, I would like to add to this dictum that each of such cases should likewise have the benefit of an analysis of the duodenal contents wherever possible. This advice is based upon the original research work on the pancreatic enzymes as they appear in the duodenal contents by Dr. W. Denis and myself. The clinical value of this last procedure as we have found it has not as yet been summarized, but for the present I will state that its place in the chain of evidence appears quite prominent in the studies of each of the cases to follow.

It is needless to call your attention to the very obvious necessity of a simple microscopic study of the feces in every case of the type of diarrhea under discussion. The appearance of excessive amounts of free fats and fatty acid crystals, unchanged striated muscle fibres and even of starch cells is of great import, especially in a comparative way with the activities of digestion in the upper alimentary tract. These findings and the symptom diarrhea have played a prominent role in the large experience of Neve.¹ This author found that frequent bowel movements were present in thirty-eight instances out of one hundred cases of pancreatic disease. He and others have stated that the diarrhea is most frequently present late in the course of the disease, but one should not have the impression that this is always the case. In fact some of my cases have presented this symptom as the first signal of distress, and many years have elapsed before the true and underlying nature of the trouble was recognized, which after ten or twelve years in two instances proved to be reflex actions of pathological gall bladders. Neve found in two of his cases considerable quantities of undigested and partially digested striped muscle fibres in the feces. Ten

eases out of his thirty-eight diarrheas showed fatty stools. The same writer states that he has been unable to find any cases on record of well marked fatty feces occurring in connection with biliary obstruction in which it was possible to prove that pancreatic obstruction did not exist at the same time. I would like to state that we have one such case on record whose findings are somewhat unusual in other respects as well. This woman, who was seen through the courtesy of Dr. C. A. Dorrestein, gave a history of having become jaundiced about four weeks before admission to the Touro Infirmary. Prior to that time she had suffered pain in the region of the gall bladder for about seven months. An interesting feature of her condition for many years resolved itself into a remittent chronic diarrhea of fifteen years duration. Although her bowels would usually move from two to three times daily for that period, there would occasionally be an exacerbation of the diarrhea with ten to twelve stools in twenty-four hours; the character of the movements was watery and very copious without visible blood or mucus. The physical examination of this patient revealed a large and irregular liver very sensitive especially over the usual gall-bladder area, accompanied by a generalized deep jaundice. While it was thought that the common duct was completely obstructed, studies of the duodenal contents showed the presence of a small amount of bile. The examination of the stool gave great quantities of free fat, unchanged muscle fibres and a few starch cells. Suspecting that there must be some changes in the pancreas from these findings alone, the duodenal contents were analyzed for their enzymatic activity and it was found that the three pancreatic ferments were practically absent. From all of our clinical teachings and especially the statement of Neve, it was fairly convincing at least that we were dealing with involvement of the pancreas if not a complete obstruction of its duct. Operation proved the case one of carcinoma of the gall bladder with obstruction of the common duct and secondary involvement of the liver. Because of the extensive mass of adhesions nothing more could be seen, felt or accomplished. After a second attempt at operative procedure for relief of the obstruction, the patient succumbed. Autopsy by Dr. J. A. Lanford confirmed the diagnosis and revealed a gall bladder completely filled with small stones. The pancreatic duct was not obstructed nor was there

any evidence of pancreatic disease either grossly or microscopically. Perhaps in the near future such an incidence of chronic diarrhea caused by functional disturbance of the pancreas and indirectly dependent upon an early gall bladder infection will never be overlooked and the offending organ treated or removed as a prophylaxis to such sequellae as terminated our case.

Referring again to the question of achylia in chronic diarrhea of the types in question, Brown² tells us that in his interesting group the pancreas was not responsible for the increased peristalsis because examination of the stool showed trypsin and diastase to be normal. This author has also cured almost immediately the majority of these cases by the administration of hydrochloric acid. In similar instances, I have administered the same therapy with immediate beneficial results also but observation of these cases over many months has taught me that such treatment was often only symptomatic and only temporary in its nature. An illustration of this fact was very strikingly brought out in the case of a middle aged woman who had from eight to ten stools every morning for twelve years. The Schmidt-Strassburger Test Diet which is used in the examination of most of our cases, did not show an excess of undigested food elements in the stools. There was a total absence of gastric free acidity throughout the Rehfus fractional analyses. The proctoscopic examination which is made in every case of diarrhea regardless of cause demonstrated a perfectly normal bowel. Hydrochloric acid immediately checked the loose bowels and the patient gained thirty pounds in the first four months of treatment. In the next three months there was a recurrence of frequent bowel movements although she was taking large doses of hydrochloric acid after each meal. The pancreas came under suspicion and consequently duodenal contents were examined for their digestive activity. This happened to be one of our earlier cases and therefore did not receive the complete analysis given at the present time. Nevertheless, the trypsin was found to be below normal. Because of a bleeding fibroid, this patient was operated. The gall bladder showed some changes and was drained. The pancreas was normal to the palpating hand which does not mean that the parenchyma could not have been diseased to some extent. There are other similar cases which, falling under other groups as well, will be taken up a little later. While

it is true that pathology in the gall bladder is not infrequently associated with pancreatitis and that the extension of infection is very probably along the lymphatics according to Deaver and others, Deaver and Pfeiffer³ are of the opinion that in a large proportion of inflammatory processes the disease is not communicated from the bile passages to the pancreas. Gall bladder disease is more frequent among women in the ratio of 3 to 2. In pancreatitis, the ratio is reversed. Evidently pancreatitis is something other than a disease dependent upon primary inflammation or lithiasis of the biliary tract. However the many cases of diarrhea with a pancreatic background and especially those with distinct steatorrhea are associated with chronic disease of the gall bladder and biliary system in general. This does not mean that one is necessarily dealing with pancreatitis secondary to gall bladder infection, for Fitz⁴ in 1903 found in a review of cases that he was able to collect only twenty-nine instances in which with conclusive evidence of pancreatic disease there were fatty stools. Nevertheless, steatorrhea may follow loss of the pancreatic secretion which in two of our cases was only diminished. These two cases of fatty diarrhea that came under my observation were associated with extensive disease of the gall tract, so much so that their livers were greatly enlarged. Unlike many other cases of pancreatic diarrhea, some of which are mentioned in this paper, they possessed normal gastric acidities. The first patient, a man of 39 years had been studied through the kindness of Dr. W. A. Reed for a period of seven months. Having had a previous history of loose bowels and being a Hondurian he was thoroughly investigated on several occasions for a possible protozoan infestation of the bowel with negative results by myself and once by Dr. S. K. Simon who was called in consultation. The enlarged liver and pathological condition of the bile obtained during the duodeno-biliary drainages suggested chronic bile tract infection. He escaped our attention for a few months until there was a sudden and severe attack of epigastric pain accompanied by fecal vomiting. As his bowels had not moved in three days, these symptoms suggested possible intestinal obstruction. With high enemata and stupes the situation cleared itself and the bowels were open. This was soon followed by copious and frequent bowel evacuations. When placed on the Schmidt test-diet the stools showed considerable

undigested fat and fatty acid crystals. The pancreatic enzymes were in insufficient strength and especially was this true of the fat-splitting enzyme. Our second patient, also a Latin-American (Cuban) a male, age 41 years, has a chronic intermittent diarrhea of two years duration. His condition had grown much worse during the three months prior to coming to me. Every three or four days during this time, his bowels would move ten to fifteen times in the twenty-four hours but especially in the morning. The picture was one of gall bladder and liver infection of chronic grade associated with a distinct steatorrhea. Again the pancreatic secretion was insufficient in its digestive capacities but this was more the case during the days of numerous bowel movements, remitting on the few days of rest that came between attacks. The treatment of this case was purely medical and included numerous and regular duodenobiliary drainages which gave some relief from the gall bladder pain and reflex gastric symptoms but a fat-free diet was necessary to partially enhance the intractible diarrhea which continued to give trouble. As to the value of administering specific glandular therapy, I will take that question up under the treatment of a few other cases that were under better control for the study of its effect. Before leaving the heading of clear-cut fatty diarrhea, it may be well to state that in animals it has been found possible by the administration of fresh pancreas to increase the assimilation of fat and protein impaired by extirpation of the pancreas. Abelman⁵ has found that pancreas of the pig fed to dogs from which the organ has been removed aids the absorption of fat.

In face of the clearly indicated need of surgical interference and the resulting removal of a diseased gall-bladder, one may occasionally encounter a very stubborn but unusual type of diarrhea. I now have reference to the chronic diarrhea following cholecystectomy. Brown² speaks of two such cases and states that he believes the condition to be due to pancreatic disturbance and brought on by a reflex inhibition of the pancreatic secretion as a result of cholecystectomy. On the other hand, Moore⁶ has shown that in rare instances secondary operations prove the presence of pancreatitis following cholecystectomy. From a clinical standpoint, one must first of all recognize and distinguish the type of diarrhea of this nature from

the frequent and temporary increase in the bowel movements as a result of the continuous flow of bile into the intestinal tract following gall bladder removal.

The two cases of pancreatogenous diarrhea following cholecystectomy that came into our studies were more of the excessive protein or azotorrheic type. A man of 37 years, who was referred by Dr. H. J. Dauterive, had his gall bladder and appendix removed because of distressing gastric symptoms. He was immediately relieved and gained weight during the following few months when he would have from 4 to 5 stools every morning. There were no other symptoms. The examination was negative physically. The gastric contents were achylous. The stools showed numerous unchanged muscle fibres. Analyses of the duodenal contents showed the protein and fat splitting ferments to be deficient and the starch splitting enzyme to be normal. He was first placed on large doses of hydrochloric acid and greatly relieved for two months when he witnessed a sudden and more severe attack of diarrhea. He was then placed upon pancreatin, 5 grains three times daily with the HCl continued. Withal, there was considerable improvement and he felt better than while taking the acid only. Nevertheless, the continued presence of free protein in the stool after two weeks of this combined therapy prompted us to double the dose of pancreatin for further aid to duodenal digestion which evidently remains impaired.

The second case under this group was seen with Dr. A. Jacobs who reported having removed a strawberry gall bladder as evidenced by the report of the pathologist as well as a chronic appendix. This woman complained of having developed diarrhea a few weeks following her operation. Every three or four days the stools would number as many as six or seven while in the interim she would have at least three stools daily. The feces showed a great number of undigested striated muscle fibres and a few *Giardia intestinalis* cysts. The analyses of the duodenal contents showed an absence of fat-splitting ferment and a deficient protein ferment. Microscopic studies of these contents showed thousands of vegetative *Giardia* present, such as has been described previously by Simon and others. The biliary duodenal drainage showed evidence of hepatic disease remaining. With the presence of the protozoan infestation of

the duodenum and frequent bowel movements, there was a possibility of cause and effect. The administration of 5 doses of silver salvarsan intraduodenally, aggregating a dosage of 7 decigrams in four weeks, caused the disappearance of the giardia in both the duodenal contents and stools. But, the diarrhea persisted. Therefore, the condition was then treated as one due to the already recognized disturbance of proper digestive function. The giving of pancreatin resulted in two stools daily for two and one-half weeks, up to the present, and the disappearance of undigested food from the feces.

It may be well to state that although the histories and findings of each case cited above are brief in order to give only the essential points and thereby conserve time, each was subjected to blood, urine, radiologic and the other examinations of importance.

In conclusion, I would like to say that in treating a case of diarrhea coming under the large group of digestive dysfunctions one cannot be satisfied with the findings of deficiencies in certain organs but must go further into the nature of their involvement which may prove to be inflammatory, malignant, syphilitic, functional or otherwise.

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DISCUSSION.

Dr. S. K. Simon (New Orleans): Dr. Silverman's paper stressed particularly the point that diarrhoeas do not always originate in the colon. In fact, a case of diarrhoea involves a complete study of the body and particularly of the entire digestive tract, starting with the mouth and going slowly downward. I have seen cases of diarrhoea which have eventually been traced to infection of the tonsils. In fact, the farther I go into the study of infectious conditions of the upper digestive tract, the more I am impressed with the importance of infections of the mouth as a precursor of subsequent infections farther down the digestive tube. Certainly no diagnosis of diarrhea is complete without a careful examination of the mouth from the viewpoint of possible infection.

As we come down, the stomach as a cause of diarrhea brings out the point that Einhorn raised twenty-five years ago, that is, the

presence of achylia cardia gastrica in many cases of diarrhea as an etiological factor. These cases of achylia gastrica were looked upon by Einhorn and up until recent times as true cases of functional disturbance of secretion. However, in the light of our present knowledge I think many of these so-called cases of functional diarrheas represent infectious gastritis probably originating in the mouth, and this as a result of fibrosis of the mucosa with annihilation of the glands. This process very often starts downward, causing a pyelitis and in some instances in the gall tract resulting in cholecystitis. Be that as it may, in a majority of cases of achylia gastrica you will find an infected gall bladder either as a sequella, or certainly as an accompaniment. The same holds true in so-called pancreatic achylia which represent an increasingly important group. The relationship of pancreatitis with cholecystitis is of course a problem that has been worked out in recent years and there is no question in regard to the close connection between the two conditions.

Dr. Silverman is deserving of a great deal of credit. His study in connection with Professor Denis of Tulane is bound to bear very important fruit. He is doing this work in an original way by means of the duodenal tube, obtaining the pancreatic juices direct from the duodenum and investigating the disturbance of pancreatic secretions from a chemical viewpoint as we have always done with the stomach contents in the past. The duodenal tube has opened up this new field and made possible the examination of pancreatic secretions as well as biliary secretions, and in a few years we will hear more of the importance of examination of secretions of the upper intestinal tract than we have in the past.

Dr. W. H. Harris (New Orleans): I happen to be familiar with certain features of the work of Dr. Silverman carried out in connection with Dr. Denis. Dr. Denis is probably one of the leading physiological chemists of the country, and in talking with her about the possibilities of the pancreatic juice observations she seems of the opinion that the studies along this line will afford us a great deal of valuable information. I think Dr. Silverman is to be congratulated upon the systematic and scientific manner in which he has handled this subject.

Dr. John T. Halsey (New Orleans): I would like to say that we older members like to hear papers from our younger members present, papers that contain evidence of hard, intensive work, and I believe I voice the sentiments of a great many here in congratulating Dr. Silverman for his work and the manner in which he has presented this paper.

LETHARGIC ENCEPHALITIS (EPIDEMIC), REPORT OF FOUR CASES WITH RESIDUAL SYMPTOMS.*

By W. S. KERLIN, M.D.

With the passing of the epidemic of lethargic encephalitis which was especially prevalent during the earlier part of 1919-1920, interest in the disease has also waned. It is only after a long period of time, however, that we can fully estimate the damage done by the infection and appreciate its gravity.

*Read Before the Louisiana State Medical Society Meeting, April 11-13, 1922.

According to the figures given out recently by the U. S. Department of Commerce through the census bureau, lethargic encephalitis is mentioned as having a low incidence in the South. Louisiana in 1919 reported sixteen cases but in 1920 only fourteen cases. According to the Bureau of Census Figures the disease was given as the cause of 1,505 death certificates in the United States in 1920, against 589 in 1919. For the last year in which the figures were secured it was shown that 1,453 deaths occurred among the whites and only 52 among the colored population. If these figures are correct it indicates neglect on the part of the doctors in recognizing and reporting this disease; for no less than twelve to sixteen cases have come under our observation since the early part of 1920.

So much has been written about this unusual disease that it hardly seems necessary for me to go into detail regarding its etiology which is unknown, its symptomatology and pathology.

Therefore, I believe this paper will best serve its purpose by relating in detail the case histories of a few cases that have come under our observation within the past two years presenting late manifestations and recrudescence of symptoms. It will also be observed that the symptoms as related by each patient of this group corresponds somewhat in sequence and detail. This is true in a great number of cases, contrary to what one would expect in dealing with a disease so protean in its manifestations.

Case 1. Miss R. B., white, age 21. Examined March 18, 1920. Complaint: Inability to control her movements, restlessness and jerking of hands.

Family history: Negative.

Past history: Whooping cough and brain fever at age of three years; frequent attacks of tonsillitis; pneumonia several years ago.

Menstrual history: Began at age of fourteen and has always been regular.

Present illness: Duration six weeks; onset gradual with a rather severe attack of influenza, within nine days' time she developed pneumonia. During the crisis on the fifth day she developed mental symptoms, being irrational at times. Mental symptoms have persisted. Patient had to be restrained in bed at times, jerking of muscles of both hands present from onset of mental symptoms. History of dimness of vision coming on early. No history or evidence of double vision. She also complained of intense itching of skin of the hands, neck and chest; frequently she would scratch herself until she bled, leaving raw surfaces. Dribbling of saliva since onset which has remained constant. Mental symptoms not impaired. Temperature ranged from 99 to 102 during the acute stage.

Physical examination: Inspection: Under-nourished; mask-like expression present; constantly moving about in bed and always

clearing throat; constant movement of upper extremities and twitching of the right rectus abdominis muscle; dribbling of saliva profuse; constantly picking at nose and causing it to bleed; the deep reflexes markedly exaggerated; practically all the muscles in a state of spasm; physical examination otherwise negative.

Laboratory findings: Urine negative; cerebro-spinal fluid negative as to the Wassermann test, cell count and increased globulin.

On March 15, 1922, one year later, her mother reports that her daughter is gradually losing her mind, stating further that she is in a constant state of fear; mother also states that patient can get around; however, with difficulty. Nearly all symptoms, according to her mother, as related above, have reappeared at intervals and are still present in a varying degree.

Case 2. C. A. H., white, male, age 20. Examined April 28, 1921. Complaint: Constant yawning and drowsiness.

Family history: Negative.

Past history: Measles and mumps when a child; influenza with pneumonia in March, 1920; denies venereal diseases.

Present illness: Duration three months but preceding this illness he had influenza with pneumonia in March, 1920, which no doubt was the time of onset of present trouble. Following this acute attack in March, 1920, he was unconscious for two or three days; meningitis was suspected but was ruled out on spinal puncture and examination of the fluid.

Present complaint: Came on rather suddenly three months previously up to which time he reports that health was fairly good. The first symptoms complained of were a desire to yawn which shortly became uncontrollable; experienced difficulty in going to sleep at night, remaining awake usually until one or two o'clock A. M.; has been getting gradually weaker; goes to sleep very easily during the day and does so quite often; dribbling of saliva began early and has continued to the present time; frequent urination during both day and night from onset until one month ago. Up three and four times during the night, passing large quantities of urine; buzzing in ears also complained of.

Physical examination: Very strong, robust individual; face flushed; typical mask-like expression, constant yawning with dribbling of saliva; blephero-spasm but no disturbance of vision; severe inflammation of the throat; physical examination otherwise negative except for exaggerated patella, abdominal and cremasteric reflexes.

Laboratory findings: Urine negative; total white cell count 6,000; differential count, L. M. 7%, S. M. 29%, Polys 54%, Eosin 4%, Trans 6%. Spinal fluid examination in March, 1920, negative for Wassermann; no increased globulin.

Additional notes: Patient seen May 7, 1921. Some slight improvement in symptoms noted; pytalism and yawning persist. Patient again seen September 15, 1921. Symptoms practically same as at last observation. Report made on patient in January, 1922, was to the effect that the symptoms were practically unchanged.

Case 3. Mrs. R. W. S., white, married, age 52. Examined February 6, 1922.

Family history: Father died at age 63 of paralysis, mother died at age of 45 from abscess in the abdomen.

Past history: Usual diseases of childhood. Influenza denied.

Marital history: Mother of two children, youngest 23 years of age. Both full term. No miscarriages. She has not menstruated since April, 1921.

Complaint: Nervousness, tremor principally of muscles of right leg.

Present illness: Duration since January, 1920. Onset sudden during the night, with restlessness, talking at random and crying. The next day patient was no better and imagined everything wrong with her. During the day on looking about the room she noticed that each object appeared as two, this double vision persisting for three days but has not recurred up to the present. She continued getting worse and could not sleep at night. Drawing of the muscles of mouth and sighing came on early, persisting for three days and recurring at long intervals up to the present. She remained in bed for one month after onset, then able to be up and about at work but has never regained her former strength. However, her health remained fairly good up until July, 1921, at which time she was again forced to go to bed on account of extreme weakness. In November, 1921, in addition to weakness, she would go to sleep in the presence of company but was very restless at night. Drowsiness and weakness have increased up to the present. Ptyalism developed two months ago and has persisted. Buzzing in the ears came on one year ago and persisted for two months. Muscles of right leg began twitching about two months ago and have persisted more or less continually since.

Physical examination: Inspection—Fairly well nourished, mask-like expression present, co-ordination good, pupils reacting normally to light and accommodation, teeth in very bad condition, marked pyorrhea present. Deep reflexes exaggerated. Coarse tremor of right lower extremity present. Physical examination otherwise negative.

Laboratory examination: Urine negative; total red cell count 4,350,000; total white cell count 11,800; hemoglobin 85%; differential count, L. M. 5%, S. M. 9%, Polys 86%, blood Wassermann negative.

Note—This case has not been seen since first examination. Received a report within the past few days however to the effect that she had not improved but that she had had a slight relapse recently.

Case 4. L. L., white, male, age 15 years, schoolboy. Examined May 27, 1920.

Complaint: Nervousness, weakness of back muscles.

Family history: Negative.

Past history: Measles, mumps, whooping cough when a child; typhoid fever in 1917. Duration eight months, beginning gradually latter part of September, 1919. After witnessing an accident in which a negro was killed, he began worrying a great deal. Two weeks later his teacher noticed that his eyesight was getting bad; double vision came on early. The first symptoms noted by his father were jerking of all extremities and biting of finger nails. Father also noticed a mask-like expression. Patient had severe sweating spells with slight temperature in the beginning. Frequent urination in the beginning with polyuria. His condition cleared up for a month or so except for extreme weakness and jerking spells.

Physical examination: Inspection—Fairly well nourished. Typical mask-like expression. Unsteady gait. Assumes a stooping posture with head and trunk inclined forward. Spine held more or less rigid. A fair degree of spasm present in all muscles on attempting passive motion. Both superficial and deep reflexes exaggerated. Physical examination otherwise negative.

Laboratory examination. May 29, 1920, urine negative. Total leucocyte count 5,000. Cerebro-spinal fluid under pressure but clear. Cell count 8. No increased globulin.

In October, 1920, he was seen at the Mayo Clinic by Dr. Adson, who rendered the following report: "From the history of the case

it appears that the boy has been suffering from a low-grade chronic infection very similar to the so-called lethargic encephalitis which has been fairly prevalent. The neurological examination presented a picture frequently seen in juvenile Parkinson's disease, but from the history and apparent improvement in the boy this diagnosis does not seem tenable. The extreme rigidity, the mask-like face, the reduction in speed and general motility all seem on the upgrade and though one cannot prognosticate definitely it is our opinion that the boy will improve considerably."

Additional notes: Dr. Pirkle, who had seen this boy in the beginning, presented him before the Shreveport Medical Society September 7, 1921, at their monthly meeting. The stooping posture with head thrown forward and a tendency to a running gait still persisted; mask-like expression was also present. However, there had been some apparent improvement.

Summary of Case: This case has presented symptoms over a longer period of time than any that has come under our observation covering a period of approximately two and a half years, having its onset in the latter part of September, 1919, with the prospects that the symptoms will persist indefinitely.

Conclusion: (1) While recovery is relatively frequent the occurrence of grave sequelae should warrant a guarded prognosis.

(2) If seen in its earliest stages, a careful case history obtained and observed throughout its course most all typical symptoms can be demonstrated.

(3) In any case presenting the following symptoms: fever, cranial nerve paralysis, accompanied by stupor or lethargy with muscle spasm and tremor, together with mask-like face a diagnosis of so-called lethargic encephalitis should be seriously considered.

(4) Netter states that lethargic encephalitis is contagious without a doubt, saliva very probably being the carrier of contagion.

DISCUSSION.

Dr. Lionel L. Cazenavette (New Orleans): The subject of Dr. Kerlin's paper opens a broad field for discussion. The case presented shows, I believe, the after-effect of the disease. There is little doubt in my mind that, if we were to examine our unusual nervous cases more closely, we would find more frequent evidences of this disease.

It is recognized that to make a diagnosis of encephalitis lethargica it is necessary to make a very thorough and complete neurological examination, including, of course, blood and cerebro-spinal fluid tests. This, because of lack of time and experience, is not usually capable of being carried out by the general practitioner. The final diagnosis must rest on the neurologist. I think it is well here to emphasize a few points regarding certain clinical manifestations that should suggest to the general man that he is possibly dealing with a case of encephalitis lethargica. The true etiology of the disease has not been definitely established. It is accepted that in-

fluenza and encephalitis are two distinct diseases, though it is known that encephalitis has made its appearance, during and after severe epidemic of influenza. As we have recently had a mild visitation of grippe, it would be well to be on the lookout, and remember that when a patient presents marked asthenia, prolonged somnolence, perhaps a state closely resembling lethargy, paralysis of some cranial nerves, particularly the oculo-motor and some rise of temperature, there is a strong possibility of dealing here with a case of encephalitis lethargica.

Some observers mention thirty or more types of this disease, others limit themselves to as few as four or five. This variance is insignificant compared with the manifold symptoms of the disease. The word encephalitis means inflammation of the brain; with this in mind, one can realize these manifold symptoms to be due to the different localities in the cerebrum (usually the basal ganglia) that may be affected.

One type frequently met with, exemplified by the case here presented, is the Parkinsonian type. Here we have a peculiar position of the hands and body as frequently seen in paralysis agitans, muscular rigidity, a mask-like facial expression, a cataleptoid attitude and tremors continuing with limbs at rest. To this may be added ocular paralysis.

Another is the myoclonic or algo-myoclonic type, which is characterized by pain and muscular spasms. The muscular twitchings may occur in different groups of muscles. I recall a case, seen with Dr. E. L. King, of New Orleans, in February, 1919, where the spasms were particularly marked about the shoulders and arms. Together with this muscular twitching, there was a very severe asthenic state, from which the patient never rallied.

Again another, is the choreo-ataxic type, characterized by, as the term implies, choreic and ataxic movements. I saw one case of this type during the winter of 1919. It was that of an Italian girl, sixteen years of age, who came to the Presbyterian Hospital clinic, because of nervousness (meaning disordered movements in limbs and body), and because of her unwillingness to obey and do anything; not even taking part in conversation. As her mother expressed it. "She wants to sleep all the time, she is very nervous, she jumps even in her sleep." The peculiar features here were the choreo-ataxic movements which persisted even during sleep, and frequently affecting the abdominal group of muscles. This patient was treated and observations made at her home. She showed marked asthenia. She improved very slowly and finally recovered.

Other types could be mentioned, such as the cataleptic and the psychotic and others, but my time limit is over. In conclusion, I wish to summarize my remarks by emphasizing that, if you see a patient presenting marked asthenia, somnolence, if not lethargy, oculo-motor paralysis and fever, think of encephalitis lethargica.

Dr. C. S. Holbrook (New Orleans): Epidemic encephalitis was very prevalent during 1918, 1919, 1920 and 1921. Dr. Van Wart and I saw somewhere near 50 cases with a mortality of about 12 per cent, with two complete autopsies. The findings in these two autopsies were the same as those which have been described in current literature. In the past year there has been a marked falling off in these cases. I have seen six definite cases in the past six months, but the decline in the number of cases has been very striking compared with the previous years.

It must be remembered that isolated cases of encephalitis have been constantly with us and therefore every case of encephalitis must not be considered as epidemic encephalitis.

Dr. R. M. Van Wart (New Orleans): Dr. Kerlin is to be congratulated on his presentation of these cases. I have had the opportunity to examine this patient and the case is very interesting, first from the point of view of the length of time this thing persisted, and second, the small amount of improvement that has occurred. At the outset of the epidemic of lethargic encephalitis, a number of cases presented this picture. Lethargic encephalitis is an acute infectious disease localized about the basal ganglia. I believe the problem this case presents raises the question of the residual symptoms of the disease rather than the persistence and continuation for this length of time. The number of late results from this disease has not been great. In our series that Dr. Holbrook has just mentioned, we only had one case and that was a case of myelitis which has persisted up to the present time. So I am inclined to think that this case is one of degeneration of the corpus striatum as a late result of the infection and not due to a continuation of the infection itself.

Dr. W. S. Kerlin (closing): This year I have seen only one or two new cases presenting symptoms and clinical findings of the disease, which is quite a contrast for years 1920 and 1921. I want to thank the doctors for their very interesting discussions; also Dr. Knighton for the privilege of reporting these cases and Dr. Pirkle for the privilege of presenting Case 4.

A CORRELATION OF THE BLOOD, SPINAL FLUID AND CLINICAL FINDINGS IN A NUMBER OF UNSELECTED CASES PRESENTING A PROB- ABLE SYPHILITIC CONDITION.*

By F. M. JOHNS, M.D., New Orleans, Louisiana.

Just when is an examination of cerebro-spinal fluid advisable or indicated in the diagnosis of the late manifestations of syphilis and of what value are the findings as compared with the blood reactions, are questions that are frequently asked of the laboratory. I have long been convinced that many cases can not be properly diagnosed or the extent of the disease conceived without the full examination of the spinal fluid; and yet I believe a lumbar puncture is a serious enough procedure to make needless examinations undesirable.

The factors producing the positive blood Wassermann test are but little understood. In a gross way the presence or absence of a reaction is more or less dependent upon the extent or "quantity," of syphilitic process that is or has been going on in the patient. The spinal fluid Wassermann seems to be derived by a slow "filtration" process from the antibodies present in the blood stream. Once established in the spinal fluid, the reaction often persists long after the blood reaction has disappeared.

*Read Before the Louisiana State Medical Society Meeting, April 11-13, 1922.

The great majority of late syphilitics present some central nerve lesions. The great majority of these are lesions that affect principally the blood vessels and are also accompanied by more or less involvement of the vessels that supply the surface of the brain and spinal cord, and the meninges.

Interference with the circulation of the blood in the meninges results in areas of localized edema with the production of a transudate rich in albuminoid substances, globulins and salts. The increase in the globulin content of the cerebro-spinal fluid is easily determined, and this increase constitutes the first real laboratory evidence of a disordered circulation (or inflammation) of the meninges.

Salts precipitate a colloidal solution. Albumins protect it against precipitation. These two substances are both increased in variable quantities in the transudates produced in the varying degrees of activity of meningeal inflammations and from these factors we get a great deal of corroborative evidence in the colloidal gold reaction.

A somewhat more active process leads to a cell proliferation and desquamation of the surface of the meninges which increases the cell count above the normal for spinal fluid.

A marked meningeal reaction is of course accompanied by definite clinical evidence. It has been also definitely shown that the examination of the spinal fluid may reveal a meningeal involvement before clinical evidence is apparent. To get some first-hand evidence on the correlation of these abnormal findings I have fortunately been able to obtain the generous co-operation of a number of physicians who have referred patients for blood and spinal fluid studies, to go over their case records and note all well defined direct or indirect evidences of meningeal involvement. In this way I have tabulated the blood and spinal fluid Wassermann, the globulin content, the cell count, the colloidal gold curve, the ultimate diagnosis of the case, and the presence or absence of the following symptoms: Headache, Vomiting, Stiffness of neck, shoulders or thighs, Oculomotor palsies, Epileptiform seizures or movements, Aphasic attacks, Mild psychoses, Parasthesias, Increased reflex excitability, Functional bladder or rectal disturbances. One hundred cases were selected at random. These represent the usual class of cases presenting in private practice and should therefore present more of the early types of central nervous involvement.

No.	Case	Wassermann			Globulin	Cells	Colloidal Gold	Presure	Diagnosis	Symptoms Referable to Meningeal Lesions
		Blood	C.S.F.							
1.	F. J. F.....	—	—	—	+++	21	1233311000		Tabes dorsalis	Lightning pains, ataxia, reflex disturbances
2.	T. E.	—	—	—	+	10	1211000000		Lateral Sclerosis	Paræsthesia, reflex disturbances
3.	J. H. F.....	—	—	—	—	7.5	0000000000		Depression Psychosis	Slight speech disturbances, "Nervous breakdown"
4.	Mr. D.....	—	—	—	—	6	0000000000		Treated for lues 18 years ago	None
5.	D. P.	—	—	—	+++	26	5455531000		General paresis	Melancholia, slight ataxia, altered reflexes
6.	K. S. C.....	—	—	—	—	<1	0000000000		General paresis	General irritability only
7.	J. M. Q.....	—	—	—	—	2.5	0000000000		Migraine	Headaches
8.	Mr. O.....	—	—	—	—	<1	0000000000		Depression Psychosis	None
9.	E. N.	—	—	—	—	<1	0000000000		Normal. Father leutic	None
10.	Miss H.....	—	—	++	++	15	4433210000		General paresis	Nystagmus, spastic gait, etc.
11.	B. B.	—	—	—	—	5	0000000000		Muscular dystrophy	Slight speech disturbances, drop foot, atrophies, etc.
12.	M. S.	—	—	—	—	5	0000000000		Psychoneurosis	Headaches, pain in neck, nervousness, psychoses
13.	R. J.	—	—	—	+	<1	0000000000	+	Migraine	Diplopia for a few days only
14.	E. L. W.....	+++	++	—	++	17.5	1111110000		General paresis; some treatment	Paræsthesias, pains in back of head and neck, numbness, etc.
15.	Mr. N.....	+++	++	—	+++	56	234454310		General paresis	Lightning pains, disturbed reflexes, etc.
16.	J. S. S.....	—	—	—	+	10	0000000000	+	Tumor of Spinal cord	Psychoneurotic symptoms, pain and tingling in left leg
17.	L. S.	+	+	—	+++	77.5	0011111000		C. S. lues	Paræsthesias tongue and face, lightning pains, headaches, etc.
18.	Mrs. Q.....	—	—	—	—	<1	0000000000		Normal	None
19.	D. P.	+	+	—	+++	42.5	5554421000		General paresis	Lightning pains, "rheumatism," slight ataxia
20.	Mrs. R.....	—	—	—	—	2.5	0000000000		Migraine	Headache
21.	E. L. N. O.	—	+	—	+++	50	5543332210		General paresis	Psychoses, altered reflexes, locomotor disturbances

22.	E. L. A.	—	—	1	1100000000	Encephalitis lethargica	Pain in head, neck and arms, diplopia; not oriented.
23.	L. McC.	—	++	10	1111000000	Tabes dorsalis	Ataxia, pains in legs, disturbed reflexes
24.	Mr. C.	—	—	5	0000000000	Constitutional inferior	None. Slight ataxia, nervousness.
25.	R. E. F.	—	—	5	0000000000	Paralysis agitans	Disturbed mental processes
26.	A. B. L.	—	—	5	0000000000	Chronic nephritis	Backache, severe headache, weakness in limbs
27.	F. B. B.	—	—	2.5	0112221000	Tabes dorsalis; some treatment	Lightning pains, left knee jerk absent, oculomotor paralyses
28.	G. A.	—	—	<1	0000000000	Encephalitis (?) Bl. changes	Rt. hemiparesis, dizzy spells, occasional diplopia
29.	R. C. B.	—	—	5	0000000000	Spinal cord tumor	Marked parasthesias and pains of legs and thighs
30.	R. B.	—	—	2.5	0000000000	Constitutional inferior	General pains and headaches
31.	C. H.	+	+++	102.5	0011110000	Cerebro-spinal lues	Headaches, reflexes sluggish, Slt. Argyll-Robertson pupils
32.	A. L. H.	+++	+++	104	5554432100	General paresis	Extreme nervousness, apprehensive, etc.
33.	L. C.	—	—	5	0000000000	Lethargic encephalitis	None
34.	R. S.	—	—	<1	0000000000	Arterio-sclerosis	Headaches, convulsive seizures with aphasia
35.	I. K.	—	—	5	0000000000	Hysteria	Aphasia, hysteroid attacks.
36.	J. A. L.	—	—	2.5	0000000000	Depression psychosis, probably luetic	None
37.	G. C. R.	—	—	<1	0000000000	Toxic convulsion	None
38.	S. L. V.	—	—	2.5	0000000000	Psychoneurosis	Dizziness, mental apathy
39.	G. H. Y.	—	—	2.5	0000000000	Traumatic injury of brachial plexus	None
40.	Wm. W.	—	—	32.5	0000011111	Spinal cord tumor	Parasthesia of legs, altered reflexes
41.	B. W.	—	—	6	0000000000	Encephalitis lethargica	Rigidity of muscles of neck, accentuated reflexes

No.	Case	Wassermann		Globulin	Cells	Colloidal Gold	Pres- sure	Diagnosis	Symptoms Referable to Meningeal Lesions	
		Blood	C.S.F.							
42.	L. H. A.	++ +	++ +	++ +	64	5555553100		General paresis	Reflex disturbances, tremors of speech	
43.	E. C.	++ +	++ +	++ +	30	5555421000		Cerebro-spinal lues	Diplopia	
44.	F. B. F.	++ +	++ +	++ +	50	5555542111		General paresis	Lightning pains, aphasias, parasthesias, etc.	
45.	S. C.	++ +	++ +	++ +	152.5	2344555444		Tabes dorsalis	Ataxia, pains, etc.	
46.	M. W.	—	—	—	<1	0000000000		Melancholia	None	
47.	M. K. S.	—	—	—	7.5	0000000000		Epilepsy	None beyond typical epileptic-form seizures	
48.	F. A. S.	++ +	++ +	++ +	28	1234443100		General paresis	Convulsions, mild psychoses, grandiose ideas	
49.	J. L. W.	—	—	++ +	22.5	3233321000		Cerebro-spinal lues	Depression psychosis, somnolent	
50.	J. McC.	++ +	++ +	++ +	52.5	0001321000		Cerebro-spinal lues	Parasthesias, exaggerated reflexes, etc.	
51.	A. S.	++ +	++ +	+	5	0000000000		Organic lues	None	
52.	Miss M.	—	—	—	5	0000000000		Hysteria	None	
53.	C. H.	—	—	++ +	30	0122100000	+	Tabo-paresis (treatment)	Oculomotor paralyses, lightning pains, slight ataxia	
54.	U. W.	—	—	—	<1	0000000000		Psychosis	None	
55.	P. D.	—	—	—	12	0000000000		Encephalitis lethargica	Muscular rigidity	
56.	Y. LeM.	++ +	++ +	++ +	87.5	3455554310		Tabes dorsalis	Lightning pains, ataxia, etc.	
57.	J. E. L.	—	—	++ +	<1	0000000000		Brain tumor	Muscular twitches	
58.	C. H. G.	—	—	++ +	12	0000000000		Epilepsy	None	
59.	S. C. A.	—	—	—	2.5	0000000000		Depression psychosis	None	
60.	A. J. B.	++ +	++ +	++ +	157	2344443100	+	Tabo-paresis	Headaches, pains, ataxia, etc.	
61.	T. J. U.	++ +	—	++ +	7	0012210000	+	Glioma of brain	Facial paralysis, aphasia, tremors	
62.	E. C. G.	—	—	—	<1	0000000000		Normal	None	
63.	R. W. B.	++ +	++ +	++ +	157	2344443100		Tabes dorsalis	Ataxia, etc.	
64.	M. J.	—	—	++ +	<1	0000000000		Normal	None	
65.	S. W. P.	—	—	—	5	0000000000		Normal	None (nervousness)	
66.	L. S.	—	—	—	<1	0000000000		Normal	None	

67.	Mrs. A.	—	—	—	—	0000000000	+	Normal Cerebral tumor	None Parasthesias, headache, etc.
68.	F. M.	—	—	—	—	0000000000	+	Migraine	Headaches
69.	Mrs. V.	—	—	—	—	0000000000	2	Tabes dorsalis	Pains in joints and muscles, Argyll-Robertson pupils
70.	T. J. B.	—	—	—	—	0000000000	<1		
71.	J. D.	—	—	—	—	0000000000	2.5	Normal	None
72.	J. W.	—	—	—	—	0011111000	0.5	Migraine, lues (?)	Headaches only
73.	W. H. P.	—	—	—	—	1121210000	62.5	Cerebro-spinal lues	Headache, facial paralysis, some hemiplegia
74.	H. N. H.	—	—	—	—	0000000000	1	Early tabes	Lighning pains only
75.	R. A. W.	—	—	—	—	0000000000	5	Lethargic encephalitis or lues	Left pupil wider than right
76.	A. U.	+	+	+	+	2234432100	32	Tabes dorsalis	Headaches, oculomotor disturb- ances, parasthesias, etc.
77.	R. C.	—	—	—	—	0000000000	2.5	Hysteria	Headache, parasthesias, mild psychoses
78.	J. B.	—	—	—	—	1135553100	15	General paresis	Headache, stiffness of neck, aphasic attacks, reflexes ex- aggerated
79.	W. R. S.	—	—	—	—	0000000000	<1	Early tabes dorsalis	Argyll-Robertson pupil, reflexes diminished, slight parasthe- sias
80.	H. D. P.	—	—	—	—	1221110000	2	Muscular dystrophy	None
81.	C. D.	—	—	—	—	0000000000	5	Cerebro-spinal lues	Slight headache, increased re- flex excitability
82.	Miss B.	+++	++	+	+	0000000000	12	Gumma of brain	Headache, vomiting
83.	Mrs. W.	—	—	—	—	0111111000	1	Encephalitis lethargica	Headache, nausea, stiffness of neck, inc. reflex excitability
84.	A. W.	+++	++	+	+	3444332100	92	Tabes dorsalis	Oculomotor disturbances, par- asthesias, psychoses, ataxia
85.	Miss C.	+++	++	+	+	3333321000	67.5	Cerebro-spinal lues	Headache, vomiting spells, in- creased reflex excitability
86.	C. G.	—	—	—	—	0000000000	3	Encephalitis lethargica	Headache, pain and stiffness of neck, exaggerated reflexes, etc.

No.	Case	Wassermann		Globulin	Cells	Colloidal Gold	Pres- sure	Diagnosis	Symptoms Referable to Meningeal Lesions
		Blood	C.S.F.						
87.	L. S.	—	—	+	5	0111210000		Syphilis, central nervous system involved.	Decreased reflexes, headache
88.	R. J.	—	—	+	25	2333321000		Cerebro-spinal lues	Decreased reflex excitability, marked headaches
89.	A. M. W.	—	—	—	2.5	0000000000		Non-luetic	None
90.	P. H. B.	—	—	—	2	0000000000		Epilepsy (?)	2 Epileptiform attacks
91.	Mr. K.	—	—	—	2.5	0000000000		Non-luetic	None
92.	E. J. K.	—	—	—	5	0000000000		Non-luetic	None
93.	W. W. K.	—	—	—	<1	0000000000		Tertiary syphilis	Periodic headaches, muscular stiffness, frequent aphasias
94.	W. P. B.	—	—	—	1	0000000000		Arterio-sclerosis, etc.	Nothing definite
95.	C. M. S.	++	—	—	5	0000000000		Syphilis, persistently (+) Wassermann	None
96.	C. D.	—	++	+++	52.5	0012322100		Cerebro-spinal lues	Oculomotor paralyses, altered reflexes, slight ataxia, etc.
97.	R. E. N.	—	—	—	<1	0000000000		Non-luetic	None
98.	J. E. K.	+++	+++	+	15	4444310000		Early paresis	Psychoses, absent reflexes, headaches
99.	N. L.	—	—	—	2.5	0000000000		Non-luetic	Periodic headaches
100.	G. L.	+++	+++	+++	595	2333321000		Cerebro-spinal lues	Psychoses, dementia, markedly exaggerated reflexes

Note: 1+ = weakly positive; 2+ = positive; 3+ = strongly positive reactions.

SUMMARY.

In 100 cases in which syphilis was possibly present, 42 cases were diagnosed as such.

85% of the positive diagnoses had confirmatory laboratory findings present in blood or spinal fluid.

40 cases had clinical evidence of organic central nervous system involvement, with 39 showing clinical evidence of meningeal involvement and 34 of these gave evidence of organic degenerative changes in the spinal fluid.

All of the cases in this limited series that presented either an increased globulin content, +colloidal gold reaction or increased cell count presented some degree of symptoms referable to a meningeal involvement.

Two cases with tertiary lues with no evidence of central nervous involvement gave neither increase in the globulins and cells nor reaction with colloidal gold.

Of the 40 cases with central nervous involvement, the various laboratory procedures gave positive findings as follows:

Positive blood Wassermann reactions in	21 cases or 52%
Positive spinal fluid Wassermann reactions in	25 cases or 62%
Increased globulins in spinal fluid in	33 cases or 82%
Increased cell count in spinal fluid in	33 cases or 82%
Colloidal gold ppt. by spinal fluid in	33 cases or 82%

CONCLUSIONS.

This is too small a number of cases from which to draw very definite conclusions. It is apparent, however, that lumbar puncture yields at least one-third more definite diagnostic evidence in these cases than the blood test alone.

All cases presenting a possible syphilitic etiology and with symptoms referable to a meningeal reaction should have spinal fluid studies done before an ultimate diagnosis and prognosis is made.

The number of positive diagnoses (34), (made or confirmed by the laboratory) as shown in this small, but unselected, series of cases would indicate that there must be a large number of comparatively early cases not found by the routine clinical examination in conjunction with the blood Wassermann alone.

As practically all of these cases had symptoms referable to a meningeal reaction, it would not be fair to assume that evidence

of organic changes in the meninges, as shown by the spinal fluid, is not present before the symptomatology appears.

DISCUSSION.

Dr. C. S. Holbrook (New Orleans): It is always worth while for the laboratory man and the clinician to get together and find out just how the laboratory checks up with the clinical findings. There has been one outstanding observation that has been present in nervous and mental diseases, and that is that the blood Wasserman itself is of little value. In cases that have a history of syphilis and show nervous and mental conditions suggestive of syphilis, little attention is paid to a negative blood Wasserman. Usually the spinal fluid should be examined at once.

In tabes, for instance, the blood is very apt to be negative and though the spinal fluid generally shows a considerable change, not always is the Wasserman positive. In general paresis a positive finding in the spinal fluid is more frequently found than in locomotor ataxia, but even here the tests are apt to be negative and yet the case be one of progressive deterioration caused by syphilis. Probably 90 per cent of the general paretics will give positive syphilitic tests in the spinal fluid. In doing a large number of Wasserman reactions on the spinal fluids of patients in one of the hospitals, we found that about 25 per cent of those admitted were suffering from cerebro-spinal syphilis and the majority of these gave positive leutic findings.

We should never depend upon a blood examination alone, but rather rely upon the clinical picture that is presented, using the laboratory merely as an adjunct. I wish to commend Dr. Johns on the compilation that he has so thoroughly made. These findings show the value of careful laboratory work.

Dr. R. M. Van Wart (New Orleans): The subject of the relationship of the cerebro-spinal findings to the laboratory findings in cases of cerebro-spinal syphilis, is one of considerable interest. I think the first point that should be stressed is that the laboratories should never displace the clinical examination. The clinical examination is just as important for these patients as the examination of the blood or cerebro-spinal fluid. The laboratories should not be overlooked, because in many instances the clinical findings are obscure, while the laboratories' findings are positive. One sees an occasional case of individuals who have had syphilis and have become worried about the fact of having had it, and asked for an examination of the nervous system. Without symptoms of any kind except a syphilo-phobia, positive leutic findings have been found of marked value. I remember a man who ten years after infection came to us because he could see himself a case of general paresis. Needless to say, that under treatment this man improved, the cerebro-spinal fluid became normal and remained so.

It is important to realize that unless you are familiar with the various clinical signs these patients should be observed by one who can make this type of examination. I believe it is practical for every practitioner to learn the ordinary things. He can learn to test the pupillary reaction, the knee jerks and question concerning bladder or rectal disturbances. It is also important to remember that sometimes these conditions are accompanied by vague feelings of illness.

I recently saw a man who complained of nothing except that he was a little bit confused and could not understand why. He had been examined by several physicians and they told him that there was nothing the matter with him. I ascertained he had had at one time what was termed a "soft sore." This led to serological exami-

nations and the findings were positive for syphilis in both the blood and spinal fluid. In this class of cases it is very important for the physician to realize that sometimes what looks innocent may on examination prove to be a specific infection.

Another point I want to stress is that it is perfectly possible for a man to have syphilis and not know it, particularly individuals who have been exposed to infection. Such cases often show well-marked cerebro-spinal changes and do not know anything about it.

The clinical findings and the laboratory findings should only be read in conjunction with each other. A negative blood Wasserman does not mean that the man is free from infection, but taken with a negative history and negative spinal fluid and clinical findings, it is probable any condition present is not due to syphilis.

Dr. M. H. Foster (Alexandria): I feel that this is not a problem altogether of the laboratory man or of the psychiatrist. It is a problem which comes to every practitioner of medicine. We repeatedly see patients who are uncertain as to the diagnosis of their case, because of two tendencies on the part of the clinician:

One is the tendency to begin treatment without having first made an accurate diagnosis of syphilis. I state to my patients that this is a matter between you and me, just the same as though you were in court on trial. The evidence will not be clinical alone, and neither can we depend solely upon the laboratory. This brings me to the second tendency, which is that we are too prone to relegate the responsibility for diagnosis of these cases to the laboratory worker.

When a patient presents himself for treatment the responsibility rests on the shoulders of the clinical man. He should make appropriate clinical studies, and have every proper investigation carried out by the **laboratory worker** and then correlate these findings, making deductions in a logical way, so that he will be able to say to the patient, "You have syphilis," or "You have not syphilis." If a doctor goes through with this rigid grill and makes an accurate correlation of the findings from all relevant sources I do not believe that the patient will have any doubt as to his diagnosis.

TREATMENT OF TETANUS BY SERUM.*

By D. W. KELLY, M.D., Winnfield, Louisiana.

Homer Gaar, Winnfield, Louisiana, married and has two children. Nothing of interest in family history outside of being negative for venereal diseases.

He stuck a nail in his arm July 2nd, 1921, and also had an infected finger when I saw him July 21st, 1921, at which time function of hands and feet was impaired and jaws partially locked, which was attributed by him to a bad tooth which he had just had pulled.

From July 21st to 28th he was on his feet going about but had severe cramps in arm and legs. July 28th after having driven a Ford car fifty miles I was consulted about his condition. At this time his jaws were locked so that he could barely insert a lead pencil between his teeth.

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The function of his arms and legs and speech was much impaired. I advised him to go home and go to bed at once, as I thought he was developing a general paralysis. I put him on Iodides and Mereury. I thought nothing of the trouble with his jaws, thinking that that condition was due to a tooth.

He had his first convulsion on July 29th, which, from what the family said, was very severe. He had several more before I saw him on the next day about 2 o'clock P. M. He had a hard convulsion while I was at the house. His body was rigid head drawn back, marked Ophisthotonus, no temperature, pulse accelerated, mental faculties clear, face drawn and was like a wooden man.

In the interval between convulsions, you could raise him off the bed by picking up his feet. He would not bend at the hips at all and was rigid for several days.

At 8:30 p. m., July 30th, about eight hours later, I saw him again. In this interval he was rapidly growing worse, during which time he had several convulsions. On this visit I gave him 10,000 units of Tetanus serum subcutaneously and put him on dram doses of Elixir Bromides with Chloral P. D. every four hours. Convulsions stopped and general conditions improved.

On the morning of July 31st I gave him 20,000 units intravenously. Patient doing nicely. August 1st, 20,000 units intravenously. August 2nd 10,000 units intravenously. Up to this time gradual improvement.

On my next visit August 3rd condition not as favorable as formerly. I gave him 10,000 units subcutaneously. August 4th condition was worse, at which time I gave him 20,000 units intravenously, which was followed by a reaction in temperature with some disturbance of the heart, but after a few hours the reaction subsided. By the next morning he seemed much better than he had been for forty-eight hours.

August 5th, condition good, 10,000 units intravenously.

August 6th, 10,000 units subcutaneously. I noticed each time I lessened the dose of serum he got worse. I had given up to this time 110,000 units, and told the family this was about the maximum the literature showed had been given and we would give him no more.

My patient was doing very well and was showing a gradual improvement. The rigidity was gradually leaving him. About 48 hours after the last dose of serum, all at once, he had a return of convulsions and was unconscious. He bent forward instead of backward.

Now, I was up against it, and realized I was on very dangerous grounds as this was the tenth day from the time I had begun to give serum, and especially so, since I had left off the serum forty-eight hours. As my patient had improved with every 20,000 unit dose, I decided, after consulting with the family, to give him a 30,000 unit dose intravenously. About two hours afterwards it was followed by a reaction which almost killed him. He hung for a week or ten days just barely alive and then began to improve and made a complete recovery.

I gave him Chloral and Bromides from the beginning, and after the tenth day morphine by needle which would control him only for a time. As soon as he would come out from under the morphine he was as wild as a March Hare and it required two or three strong men to hold him on the bed. I gave him 10 grain doses of Chloretone every four hours until I got him to sleeping, after which five to ten grains each night and would keep him quiet.

I attribute my patient's recovery to my heroic treatment with Tetanus serum. Next to the serum there was no drug that served me as well as Chloretone in relieving the wild delirium and causing sleep. I would not advise repeating the 30,000 unit dose, especially after letting the patient come out from under the effects of the serum. The number of deaths I have seen from the Daily Press from Tetanus prompted me to report this case. It is my opinion if you give enough serum you will get results. I believe that we are today in the treatment of Tetanus, just where we were eighteen years ago in the treatment of Diphtheria.

I acknowledged my indebtedness to Dr. J. J. Peters of Winnfield, Louisiana, for confirming my diagnosis and suggestions in regard to the case. I am also indebted to Dr. Urbane Maes of New Orleans, for valuable suggestions after I had finished the serum treatment.

DISCUSSION.

Dr. Charles F. Gelbke (Gretna): The trouble is we do not use doses large enough. I have had four complete recoveries from tetanus, and the fifth was a woman who had had one kidney removed; she finally died of uremia. I gave big doses by vein. Three of the cases are still living. I believe we should use large doses of serum and use it often enough. If you do, you will get results.

Dr. D. W. Kelly (closing): I just want to say that after they develop tetanus there is something else to do besides give them morphine and let them die. The results I got from the treatment of this case convinces me that if you give serum and give it early you will get results. If I were treating a case in a hospital I would not wait twenty-four hours to repeat the dose, but this man lived ten miles from my office, so I did see him but once a day. I believe if you give enough serum you will get results in tetanus, and the death rate instead of being 75 per cent, will be considerably less.

BLOOD PRESSURE.*

By H. GUY RICHIE, M.D.

As we go on in medicine we are impressed by the fact that improvement in our means of examination, while it adds to our knowledge and is greatly to the benefit of our patients, adds also to the complexity of the problems which we have to solve.

The improvement in the means by which we estimate blood pressure is no exception to this for in the days before which we were given instruments by which we could make exact blood pressure readings we had fewer things to consider.

While on the subject it might be of interest to some of you those who have not had occasion to look into the historical side of it to hear some of the facts; the earliest efforts that were attended with some little success in this field were those of Marey in 1876 who promulgated the principles upon which blood pressure is measured today. Subsequently Bosch and Potain devised some instruments which came into use but soon were displaced by other instruments much more practical. It was Riva-Rocci who devised the convenient and effectual pneumatic arm band and pump for compressing the brachial artery—the prototype of the present day device—and its values were registered by means of a mercury column in an upright capillary tube graduated in mms of mercury. While the mercury column is still clung to by many as being a gauge of great accuracy the air chamber and dial registering device as typified in American instruments such as those of Faught, Taylor

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Bros. and others are sufficiently accurate for all practical purposes and are the ones in general use today.

The term blood pressure is synonymous with arterial tension and means the tension of the blood within its containing arteries, it may be high and it may be low and the elements entering thereto are:

- The heart output;
- The elasticity and tone of the arteries;
- The peripheral resistance;
- The blood volume.

Since the vis-a-tergo for blood movement is dependent on the heart's contractions, the functional effectiveness of that organ is a factor of the first importance. Osler says:

- 1st. The heart pump supplies the force;
- 2nd. The elastic coats of the large arteries store and convert an intermittent into a continuous stream;
- 3rd. The small arteries act as sluices or taps regulating the control to different parts;
- 4th. The capillary bed is the irrigating field over which the nutritive fluid is distributed;
- 5th. The drainage system is represented by the veins and lymph channels.

NORMAL BLOOD PRESSURE AND ITS VARIATIONS IN HEALTH.

The normal systolic blood pressure in adults ranges from 105 to 145 mms of Hg; in females the pressure is about ten less than in males.

The normal diastolic pressure ranges from 25 to 50 lower than the systolic. We are told that a systolic pressure below 100 or above 150, and a pulse pressure below 25 or above 50 may be regarded as abnormal, a diastolic pressure of 110 or over is almost always pathological.

The pressure of the blood in the arterial system is subject to wide variations compatible with health such as time of day position, exercise, excitement, digestion, etc., high temperatures and excessive atmospheric humidity are said to materially lower both the diastolic and systolic pressure. High altitudes cause a lowering of diastolic and systolic pressure.

Old age is usually accompanied by a higher pressure said to be due to loss of fats and general shrinkage of the tissues as well as to less elastic arteries. The posture of the body has

some effect on blood pressure; in the horizontal position systolic pressure is found to be 8 to 10 mms. higher than in the sitting posture; the diastolic pressure is relatively more increased than the systolic in the horizontal thus decreasing pulse results. Moderate exercise increases while fatigue decreases systolic pressure.

After meals there is a moderate rise in systolic pressure. Transient emotional states are not without their influence on blood pressure and it is by this time well known that anxiety, pain and anger are mental conditions which increase by vasoconstriction both systolic and diastolic pressure.

BLOOD PRESSURE IN DISEASE.

We must remember that blood pressure, high or low, is not a disease in itself but only a symptom due to disease somewhere, it may be compared to fever for which we have always to find a cause; to state that a patient has a systolic pressure of 220 gives us a fact, but a sterile fact and it at once becomes our duty and is to the interest of our patient to carry our investigations further, and as high or low blood pressure is not a made-to-order symptom we are frequently put to a quite severe test to determine just what is going or has gone wrong and, too, to determine as to whether the disturbance in blood pressure is functional or organic, for we must not lose sight of the fact that it can be either and that applies more especially to an increased blood pressure.

LOW BLOOD PRESSURE.

A low blood pressure is associated with a variety of conditions and a discussion of the causes must include the different parts of the circulation, weakness of the myocardium, a dilated heart with its diminished driving power is always associated with a low tension. The acute infections, typhoid fever and pneumonia, are also causes of low pressure. In typhoid fever and a low pressure should cause no great amount of concern and indeed it might be beneficial in cases of hemorrhage; a doctor always notes with concern a pulse rate which increases when a systolic pressure progressively lowers in cases of pneumonia.

The elasticity of the blood vessels has an important bearing on the maintenance of blood pressure and of diastolic pressure particularly, and while it is generally supposed that rigid ar-

teries—arterio-sclerosis—is always attended with a high pressure it is possible for the contrary to be the case for myocardial disease may have progressed so far as to make it impossible for the heart to do its work against the resistance offered by the rigid arteries.

The veins by holding large quantities of blood thereby decreasing the amount of material with which the heart and arteries can work, is frequently a factor in the production of hypotension.

BLOOD

Alterations in the blood, both as to amount and normal constituents, may be responsible for a lowered blood pressure as seen in cases of sudden and severe hemorrhage and anemia, this action probably due to a lack of efficiency in the heart muscle. Other conditions that may be mentioned as associated with a lowered blood pressure are tuberculosis, shock, acidosis and under feeding and in cases of suspected tuberculosis a low blood pressure is significant and the case should be kept under observation until the contrary has been demonstrated. A fall in blood pressure frequently takes place during the administration of anesthetics and such an occurrence should be promptly detected and as promptly treated, usually it is caused by an overdose of the anesthetic.

HIGH BLOOD PRESSURE.

Owing to the complexity as well as the uncertainty of the problem of assigning definite causes in all cases of high blood pressure, I have elected to touch upon the wide variety of factors that are justly or unjustly held responsible in the causation of that condition. We can not lay too much stress upon the efforts one puts forth in meeting the vicissitudes of life as an etiological factor in diseases of the heart and arteries. It is quite popular at this time as well as correct to charge to overwork and long hours the condition which we have under discussion, but it must not be forgotten that frequently recreation indulged in after business hours or the indulgence of some habit during or after business hours, or the lack of physiological rest after physiological exertion frequently is responsible for the disease a man may have. Overeating is probably one of the most frequent causes of high blood pressure. A habitual alimentary

overindulgence causes a congestion of all viscera, taxes one's capacity for the digestion of proteins which undergo putrefactive processes and causes an intestinal toxemia; if this overindulgence is persisted in the toxic by-products, by their irritation of the intima of vessels and by irritation of the vaso-motor center, will do damage impossible of repair. I think it is safe to say that in many of these cases aggravated symptoms and even etiology bear a close relationship to the "hog-killing time."

The relations of hypertension to cardiac disease, arterio-sclerosis and nephritis, so-called cardio-vascular-renal disease, render it difficult to consider these diseases as separate and distinct condition. Hypertension is a sign common to all and is best considered in its relation to them as a group.

So common are the cardiac difficulties in many cases of high blood pressure that the presence of hypertension or its role in the drama is overlooked and the condition is diagnosed as cardiac disease, angina-pectoris, myocarditis, etc., and the blood pressure is not even suspected. If arterial resistance is of a grade that the heart can overcome a hypertrophy of the left ventricle will result, and if the degree of that resistance is extreme the left ventricle will not only hypertrophy but will dilate, murmurs, disturbed rythm and distress will develop. With a slowing of the circulation the blood becomes charged with CO_2 , which produces an asphyxia of the centers of the medulla which in turn produces a vaso-constriction.

Blood pressure examinations in aortic insufficiency show a constantly high pulse pressure.

A constant blood pressure of 170 mms is very suggestive of renal disease, generally a chronic instertitial nephritis even though there is an absence of albumen and of casts in the urine and an excess of the night urine over the day output and a large twenty-four-hour quantity of pale low gravity secretion is the typical picture. In acute primary nephritis and in nephritis secondary to some of the acute infections—scarlet fever, for instance—there usually is a marked rise in blood pressure. Cases of transient albumenuria with or without casts should be kept under observation and the blood pressure and urine frequently examined.

The association of chronic renal disease and permanent hypertension leading to hypertrophy of the heart, to the eventual de-

velopment of arterio-sclerosis terminating frequently in myocardial insufficiency, has been and is such a commonplace of clinical and pathological observation that it is difficult to say whether the disease is primarily renal with the circulatory condition secondary thereto, or vice versa. The arterial hypertension of cardio-vascular-renal disease is the chief cause of the eye ground phenomena so frequently observed in these conditions and an albumenuris retinitis associated with high blood pressure is often the first indication of the underlying condition.

A large life insurance company in this country found that of the medical impairments found together with high arterial tension below and above the ages of forty more than seventy-five per cent are cardio-vascular.

In arterio-sclerosis a rise in blood pressure is the rule, though there are some who believe that a rise in blood pressure occurs only in those individuals who have an involvement of their aortae and splanchnic vessels, and indeed many cases of peripheral sclerosis, for instance, of radial and temporal arteries, are unaccompanied by hypertension though this might be caused by a heart that is in decompensation.

Focal infections are frequently the cause of high pressures and instances are not lacking in which a high pressure was promptly reduced by the elimination of foci of pus organisms in the tonsil or in the mouth at the root of the teeth.

Syphilis is not believed to play an important part in the production of hypertension; in the white race the positive Wasserman reactions in cardio-vascular cases is $3\frac{1}{2}$ per cent while the percentage is 8.8% per cent in all other white cases.

Janeway regards the toxins of alcohol, tobacco, tea and coffee as of doubtful importance in the production of hypertension.

Blood pressure in anesthesia and surgery. Blood pressure examinations are of the greatest importance for judging the condition of the patient during the administration of anesthetics and during surgical operations. Early warning of impending shock is obtained which enables the institution of prompt treatment at a time most likely to lead to the recovery of the patient. Changes in pressure will result from obstruction to respiration, overdose of anesthetic, from unusual temperature in the operating room, and from hemorrhage and

operative manipulation. A falling pressure with an increasing pulse rate is a certain indication of impending shock.

GLANDULAR DYSFUNCTION.

Before concluding I desire to say that the endocrine glands should be given consideration in the study of hypertension in not a few of these cases of functional hypertension the disorder is caused by a glandular dysfunction, adrenal irritability is said to be a prolific cause of hypertension, and in the hypertension which is associated with the menopause, probably the most frequent functional hypertension one meets with, I think it is safe to say that the ovary is at fault. I believe that the consideration of these cases from this standpoint will help us find the way to a successful therapy.

HYPERPYESIA, NERVOUS HYPERTENSION OR THE HYPERTENSION OF CLIFFORD ALBUTT.

Under this head falls a number of cases which show no evidences of heart, renal or vascular disease and neither do these cases fit well into groups other than these. The causes of the heightened blood pressure in those is not yet known. In the course of time it is followed by cardiac hypertrophy and by arterio-sclerosis, it is essentially chronic in its course, the BP is consistently high being 180 or above, it is usually found in business men who work hard and are inveterate smokers, those who work increasingly without relaxation and as I have said above the end results are cardiac failure or arterial accident, cerebral or coronary, though some of these cases stand remarkably high pressures and go in life in apparent comfort and robust health.

TREATMENT.

Evidently this must vary with the cause which must be determined before intelligent therapy can be carried out. In the treatment of both hypertension and hypotension it is necessary to initiate a rigid regulation of diet, habits, drinking, sleeping and working which will vary somewhat with the cause. In the cases of acute infectious diseases means should be instituted directed to elimination and to the support of the circulation.

The diet should be anti-putrefactive; protein foods such as meats, fish, milk, cheese, beans and peas being entirely elimin-

ated or greatly reduced in amount. Fruits and green vegetables should constitute the diet and where pressure is very high absolute starvation continuing for several days is of great value.

The majority of these patients are hearty eaters and it is in these that a regulation of diet is productive of the best results and if they are put on a vegetarian diet improvement is sure to set in: many cases do well on a Karel diet, a glass of milk every four hours during the day and continued for two or three days at frequent intervals.

As abnormal fermentations and putrefaction in the bowel undoubtedly cause blood pressure to rise and keep it so, active treatment should begin with a thorough cleansing of the intestinal tract by purgation and should be repeated once per week, the drug holding first place in my opinion is mercury followed by a saline.

Overindulgence in the use of alcohol, tobacco, tea and coffee should be regulated.

A man with hypertension should be warned to make his life less strenuous, he should be advised against taking on new enterprises that entail mental stress, he should make his holidays more frequent and longer, he should exercise, walking or horseback riding are not too strenuous and are to be recommended. Anything that promotes perspiration or improves the circulation in the skin and muscles helps to lower blood pressure; warm baths are helpful in lowering blood pressure and help the kidneys.

Salt and water restriction will be found valuable in controlling pressure in some cases.

Baths, plain and medicated, and the high frequency current have their advocates in the treatment of high blood pressure.

Venesection has proven of some value in cases where the blood pressure shoots above its accustomed figure and produces a sense of fullness and headache which is a sign of impending danger, a warning of cerebral accident.

There is no doubt that the dilators are valuable agents in reducing blood pressure and the drugs of choice are the nitrites. My preference is for sodium nitrite given in moderate doses three times daily. Nitroglycerine is of value if given

in doses sufficiently large and often enough to produce effect or until it produces a headache. In cases where there is insomnia chloral in five grain doses every four hours works well; there is no doubt that the sleep it produces had a favorable effect on the hypertension. The iodides have a traditional usage but I am inclined to question their efficacy save in luetic cases; in non-luetic cases my feeling is that the damage is done and it is too late to give them.

W. D. Robinson of Philadelphia reports the use of pilocarpine in hypertension with cardiac hypertrophy with gratifying results. He gives 1/30 grain in a glassful of water after meals increasing or decreasing the dose as required.

In cases where symptoms of cardiac failure are evident I do not hesitate to give digitalis, and if my patient is sleepless and his respiration is embarrassed I give morphine.

Stoll has outlined a series of don'ts for patients with hypertensive cardiovascular disease which are of distinct service in keeping the etiology and prevention of these conditions in mind. They follow:

1. Don't tell the patient with moderate hypertension, few symptoms and whose kidneys are functioning well, to stop eating meat or to go on a milk diet.

2. Don't tell him to immediately give up his business; try to readjust his life so that unnecessary cardio-vascular strain is reduced to a minimum.

3. Don't tell him his kidneys are all right just because his urine exhibits neither albumin nor casts.

4. Don't miss the significance of a nocturnal polyuria and a persistently low specific gravity.

5. Don't give nitroglycerine tablets to your patients the moment you discover that he has hypertension. Perhaps he requires a high pressure to get the blood through his small inelastic vessels.

6. Don't be satisfied with the systolic pressure—the diastolic is often of more significance.

7. Don't attribute insomnia and headache in the middle aged women to "the change." Take her blood pressure and examine her eye grounds.

8. Don't make a diagnosis of neurasthenia till after a blood pressure estimation and a Wasserman test has been made. It

may save subsequent embarrassment and even be of advantage to the patient.

9. Don't think you are doing your whole duty to your pregnant patient when you have examined her urine. She may have hypertension but no albumin today and eclampsia next week.

10. Don't consider hypertension solely a condition of middle life; it occasionally is present in childhood.

11. Don't forget the old man's enlarged prostate. It may be the cause of the nephritic syndrome.

12. Don't hesitate to give digitalis when symptoms of cardiac failure are evident. It will not raise the blood pressure.

13. Don't wait until the patient is water logged and the heart dilated before suspecting a failing myocardium.

14. Don't deny your sleepless, gasping patient, whose course is nearly run, the relief that only morphine will give.

15. Don't make a prognosis solely on the blood pressure or the PST test. Each tells but part of the story.

16. Don't overlook the fact that cardiovascular disease is to a certain degree a familiar condition sometimes present in several generations; nor neglect to explain the importance of a yearly blood pressure estimation of all members of the family.

17. Don't exclude syphilis, especially a parental infection, as the cause of hypertension solely because the Wasserman is negative. Study the family history, examine the brothers and sisters, and your patient's children for signs of hereditary syphilis.

18. Don't fancy that the management of hypertension consists in watching a column of mercury or that success is measured in mms.

IN CONCLUSION.

Let me emphasize the fact that low and high blood pressure are symptoms and not diseases, their presense suggests the need for careful study to determine the underlying cause and on this proper therapy must be based.

That blood pressure may be of two distinct types, viz.: functional or organic.

Ductless glandular dysfunction is probably responsible for a large number of cases of abnormal blood pressure and their

consideration from this standpoint may be the beginning of a successful therapy.

The fact should not be lost sight of that a high blood pressure is necessary in some cases, for instance in cases of chronic interstitial nephritis.

DISCUSSION.

Dr. John T. Halsey (New Orleans): There was one thing in that paper, an expression of a view which is so frequently put forward, which I am so convinced is incorrect, and upon which it is so important that we should think right, that I will discuss that one point. This was the statement that the adrenals have anything to do with high blood pressure. By biologic methods it is possible to determine the amount of adrenalin present in the blood with such extreme accuracy and delicacy that adrenalin in dilutions way up in the tens of millions can be recognized and determined. There is not one particle of evidence, that will stand investigation, to show that the adrenalin content of the blood is increased in cases of hypertension. As a matter of fact, if there is enough adrenalin in the blood to produce a rise of blood pressure there is more than enough to produce one of its other effects, namely, the inhibition of peristalsis with a resulting paralysis of the intestinal movements. I speak thus because of the propaganda which the "endocronies," as I call them, are carrying on in an endeavor to persuade doctors that a lot of things are true which are absolutely false and which they know to be false. I hope Dr. Richie will excuse me for being so positive about this matter. It is not pleasant to thus disagree with him about something which he has said.

Dr. John B. Elliott (New Orleans): About a year ago I went over our records and found that in 280 cases the blood pressure was 170 systolic. Of these cases 23 per cent gave positive blood Wassermann; about 8 per cent showed clinical symptoms. The others were due almost entirely to over-eating. In other words, I believe firmly that over-eating causes a vast majority of these cases. A man who eats three large meals a day and does not walk will eventually have a high blood pressure.

Another point I want to bring out is the prognosis. To people who have a high diastolic pressure, over 120, we offer a short duration of life. Very few of them live over five years.

Another point about the treatment: It is a question of the salt. Cut out the salt, and cut down the water. Water is the worst thing for high blood pressure. With the ordinary patient do not change his diet, but cut his water down one-third and cut the salt down and almost immediately the blood pressure will fall. Another thing about treatment is to get these men to promise you to go home and rest an hour in the middle of the day. That will do more good than all the medicine in the world. I have watched one case for twenty years, and he has had a blood pressure of over 200 for fifteen years. I persuaded him to take a rest in the middle of the day, cut out the water and the salt, and it fell to 165 and lower. They can live for years and years comfortably by cutting down the food and water and salt and taking rest in the middle of the day.

Dr. Allan Eustis (New Orleans): Just a word of caution in regard to the prevalent idea of regarding every case of systolic pressure of 200 or over as high blood pressure. In many of these cases this is a compensatory blood pressure, and the kidneys work better with a blood pressure of 200 to 220. I think the recent work of Richards has certainly brought out that contention. He shows that

the function of the kidneys is absolutely dependent on the pressure behind the arterial flow. Instead of attempting to lower this blood pressure in arterio-sclerosis, look at it as a beneficent act and keep it at that point. Instead of giving amyl nitrite, as we have seen again and again, attempt to keep it from 200 to 220, but do not let it get up to 240. Look at 200 as a compensatory factor.

Dr. A. A. Herold (Shreveport): I would just like to say a word about what Dr. Elliott said in regard to restricting water. These cases very often complain of intense thirst, and that is probably a factor in increasing the pressure. If you will do as the doctor says and restrict salt and also sweets, you will find they can get along with considerably less water. In other words, anything which will minimize the thirst is a very valuable aid.

Dr. D. J. McAnn (Atkins, La.): I heartily agree with everything Dr. Elliott said, especially about the importance of over-eating. Over-eating is the greatest curse of most people in the South. In regard to restricting salt, for every teaspoon of salt that a man takes into his stomach it requires a quart of water, and therefore if you cut down the salt content you will reduce their thirst a great deal. In regard to eating sugars and starches, a person who has a high blood pressure should be put on a green vegetable or diabetic diet.

Dr. H. Guy Riche (closing): I must say that I agree with Dr. Eustis in saying that high blood pressure is necessary in some cases. It is a physiologic necessity in all cases where certain structural changes have taken place in the cardio-vascular system and in diseases of the circulatory system involving the kidney.

I also agree with Dr. Elliott when he says that a high diastolic must be viewed with concern and indeed high diastolics disquiet me very much more than do high systolics. It takes a good heart to maintain a high systolic pressure while a high diastolic strains an artery often diseased beyond hope.

Replying to Dr. Halsey, I would like to say that I have a great deal of respect for his opinion on this as for his opinion on any medical subject and he no doubt does a great deal of work in this line; but I also have a great deal of respect for the opinion of some of the authorities that I have consulted in the preparation of my paper and we are certainly taught that adrenalin raises blood pressure.

I thank these gentlemen who have discussed my paper, adding interest to a subject that is, to my mind, an important one.

TREATMENT OF TYPHOID FEVER.*

By GEO. S. BEL, M.D.

Preventive measures against typhoid comprise a pure water supply, the proper care of the excreta from those suffering from the disease, precautions against food contamination, protection against flies, isolation of the patient, the disinfection of all articles used in the sick room or likely to be soiled by the patient, (because it is through these the soil and water become polluted and complete the chain of transmission), the constant care on the part of the physician, nurse and attendants to avoid their contracting the disease through handling or becoming me-

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chanical carriers. During epidemics, all drinking water and milk in the community should be boiled and no green vegetables or shellfish should be eaten unless the source is known to be above suspicion, and these should be handled also by someone who is above suspicion. In every community where typhoid breaks out, it is the duty of the physician to advocate, and the duty of the health authorities to enforce typhoid vaccination. It is now well established that typhoid is a certain prevention against the disease for a period of two or more years. One should not hesitate to vaccinate all the members of a family in which typhoid has appeared; the vaccination can do no harm and gives only temporary inconvenience. Serum sickness and anaphylaxis cannot occur following the administration of vaccine for reasons too well known to mention. Furthermore, the doctor, nurse, orderly and other attendants upon the sick should promptly be vaccinated. Not only is this a precautionary measure against the disease for those vaccinated, but it is a sure prevention against their becoming "mechanical carriers," and, in this way, spreading the disease to others. This is explained on the theory that they are rendered immune and their immunity destroys the viability of the specific micro-organism which may, from time to time, enter the various external avenues of infection. The vaccine used is either without or in conjunction with typhoid antitoxin.

The latter is said by some authorities to be preferable because it gives rise to less discomfort on the part of the recipient and it assures a longer immunity. The vaccine in this form is known as a sensitized product.

Treatment of typhoid fever. The general management of the typhoid patient may be summarized under several heads, viz: General management, diet, hydrotherapy, chemotherapy, vaccine and serum therapy, and treatment of individual special symptoms.

The general management of the typhoid fever patient includes, primarily, a well ventilated room with good light where every care is used to preclude the transmission of the specific micro-organism. If the patient is financially able, he should be immediately transferred to an institution. A skillful and intelligent nurse is essential in the care of the patient and in preventing the spread of contagion. She should be carefully in-

structed to properly dispose of the excreta and care for all utensils and bed clothing used by the patient. When circumstances do not permit of a trained nurse in attendance, detailed instructions should be written out for whomsoever has charge of the case.

The nurse or other attendant should be instructed regarding the symptoms of hemorrhage and perforation in order that this might be immediately reported to the physician.

Without delay, the physician should have a blood picture of the case and repeat this every few days since, by this procedure, he can frequently anticipate serious complications such as perforation and peritonitis, as this is always preceded by a change in the blood count—sometimes forty-eight hours prior to the occurrence. Leukopenia is the characteristic blood change for typhoid and Neutrophilic Leukocytosis which is not uncommon in the course of typhoid fever is pathognomonic of a secondary pyogenic infection. This in itself warns the physician that ulcerations have occurred in the intestinal tract. The patient should be provided with a comfortable bed and a rubber sheet should be placed upon the mattress to guard against soiling. It is imperative that the patient remain in bed throughout the entire illness and be disturbed as little as possible. A certain amount of daily movement of the patient in the bed is necessary to avoid bed sores and is to be accomplished by careful attention to the patient's skin, bearing in mind that the patient should use the urinal and bed pan with the least possible disturbance. Attention to the care of the teeth and mouth should be diligently accorded by the nurse or attendant. It is important to have the lower bowel move daily and, if this does not occur, an enema should be given.

The diet in typhoid fever should be liberal, including, of course, easily assimilated foods given at regular intervals. While in former days, it was thought advisable to feed the typhoid fever patient on nothing but a liquid diet, this has now been established as erroneous. The greatest variety of foodstuffs is now given provided, of course, it is assimilable and, since the institution of the present day less restricted diet, we seldom see the emaciation, weakness and other untoward signs and symptoms. Furthermore, the liberal diet has certainly lowered the mortality. The liberal feeding maintains the loss

of weight and general tone of the system which factor increases the resistance, and, thereby lessens the toxæmia and favors recovery. Since typhoid fever requires several weeks to run its course, and there is a continued loss of body protein as a consequence, it is necessary to nourish well and to administer food which has approximately the equivalent of 2,500 to 3,000 calories daily.

While milk is a useful article of food, we should not depend upon it alone as was formerly done, because it requires too large a quantity for supplying the needed calories per day, and, if such a quantity were given, it might cause tympanites and aversion to it by the patient. Milk, however, in combination with other articles of food such as cream, ice cream, cocoa, chocolate, strained soup, eggs, (soft boiled, raw or poached) malted milk, sugar, soft cereals, oatmeal, hominy, gruels, jellies, jams, egg nogg, bread with butter, milk toast without crust, crackers, mashed and baked potatoes, custard, tapioca, light pudding, cornstarch, strained vegetable soup is the diet of choice.

In selecting a diet, one must remember:

(1) That the carbohydrates such as gruels, oatmeal, cream of wheat, hominy, crackers, bread, toast, mashed and baked potatoes, milk, sugar or lactose (lactose has the same food value as cane sugar and has the advantage of not being so sweet; therefore, it can be used in larger quantities and can be advantageously taken in milk, lemonade, ice cream, custard and on cereals) should furnish half or more of the calories and lessen nitrogenous waste.

(2) That protein destruction in typhoid fever is very high and this can be avoided, to a great extent, by the selection of the proper food, and always bearing in mind that the amount of protein in the diet should average between sixty and seventy grams. The proteins are supplied by milk, cream, eggs, beef juices, etc. Fats have a high caloric value and are of material aid, being mostly supplied by cream, butter and cocoa.

In selecting a diet, it must be remembered that the vitamins are important and should be considered; here again, milk is essential as it contains both vitamins, water-soluble B, and Fat-soluble A, and the fruit juices—especially orange

juice, lemon juice, tomato juice and vegetable juices, etc., are beneficial.

The physician must bear in mind the possibility of over-feeding and causing digestive disturbance or improper feeding, in some cases producing tympanites and diarrhea—(tympanites may be due to an excess of lactose and diarrhea to an excess of cream in the liberal diet).

Water should be given freely at definite intervals and in *large amounts*, as it dilutes the toxins and favors elimination. The writer prefers pure plain water to albumin water, lemonade, etc., which usually dulls the appetite and lessens the desire for food.

It may be well to mention here that certain complications prevent carrying out the above method of feeding. Hemorrhage from the intestine and perforation of the bowel call for prompt withdrawal of all food.

In order to stimulate the patient's appetite, it is necessary to have a daily variation in the diet and food should be selected for each individual patient; therefore, there is no need for a stipulated diet.

Hydrotherapy is the only logical febrifuge and affords the best means in the reduction and control of temperature and prevents the development of severe nervous symptoms. It not only reduces temperature but lowers the mortality; toxemia is diminished, and, consequently, nervous and digestive symptoms are palliated, cardiac and pulmonary complications are lessened. Renal function is stimulated, favoring the elimination of toxins by the kidneys, cleaning the skin, and the cutaneous circulation is improved which makes the occurrence of bed sores less frequent.

Contraindications to the use of the active hydrotherapeutic measures are hemorrhage, perforation or peritonitis, great prostration and weakness, especially in extreme age and advanced arteriosclerosis and when the bath causes intense cyanosis and syncope or much dyspnoea. Pregnancy, menstruation, mild forms of nephritis, bronchitis and pneumonia are no contraindications.

Methods: Whenever practicable, the cold bath is always preferable and the sooner this plan of treatment is instituted,

the better will be the result. The technique of procedure may be described as follows:

To carry out the method properly, at least two attendants are necessary because the patient must be lifted into the tub which is placed at the bedside, this being preferable to having the patient's bed moved to or near the bath room. The tub should be of sufficient length and width to accommodate the patient and should be filled for use to three-fourths of its depth with water in order to cover the patient to the neck; the head should be supported upon a rubber air pillow attached to the edge of the tub and he will be made more comfortable by placing a rubber air cushion beneath the buttocks. The patient's nightshirt or gown is removed, a napkin placed over the genitals or the whole body covered with a sheet under which he is bathed. He should now be given a stimulant such as brandy, whiskey or hot, black coffee, wiped dry—if perspiring—and a small piece of cotton placed in the ears after which he is ready to be transferred to the bath by two attendants, one grasping him under the shoulder resting his head on the attendant's arm, and the other just below the knees; the patient is then asked to stiffen himself out. This should be done as gently as possible.

As soon as the patient is placed in the tub, brisk friction of the whole body except the abdomen is a very important part of the treatment. Cold compresses, frequently changed, should be applied to the forehead.

While the patient is in the bath, the bed should be prepared, for his return by placing on it a double blanket and over this a warm, dry sheet, hot water bottles being placed at the foot of the bed. The patient should now be lifted from the tub into the bed, the warm, dry sheet folded over him—a fold being passed between each arm and the side of the body and between the legs in order that the skin surfaces shall not come in contact. The patient should be thoroughly dried by being rubbed outside or over the sheet, and the blanket then wrapped around him. At the end of ten minutes, he should be taken out of the sheet, rubbed dry and gown and bed clothing replaced. The reaction is generally prompt. Protracted shivering during and following a bath and many untoward symp-

toms point to some defect either in the duration, temperature or faulty application of friction.

In the strict Brand method, the patient is immediately placed in water not less than 65 degrees F. and not more than 70 degrees F., and repeated every three hours as long as the rectal temperature is above 102.5 degrees F. and the duration of the bath is fifteen to twenty minutes. Brand's original method has met with slight modifications and the advocates of the modified method favor beginning the baths with a temperature of 80 degrees F. to 85 degrees F., and, in some selected cases at 70 degrees F.; the bath is continued for fifteen to twenty minutes. It is well to administer the first bath at a temperature of 85 degrees F. which allows the patient's reactive powers to be measured and the subsequent baths determined accordingly. If possible, the physician should be present during the first bath to guard against the possibility of shock, to encourage the patient, and to see that the good effects are not lessened by too early termination.

Cold or wet pack: In private practice—and especially among the poorer classes who cannot secure the proper help and nurses—the wet pack may be used instead of the tub bath. While it does not have the full effect of the tub bath, it is nevertheless, very beneficial. A large sheet is wrung out of cold water ranging from 50 to 54 degrees F., the patient quickly wrapped into the sheet and allowed to remain in this packing according to the temperature and reaction. The surface should be rubbed briskly through the sheet, and, from time to time, cold water is sprinkled over the sheet.

Cold sponging may be utilized when baths are refused or cannot be employed. The entire body is rubbed briskly—*except* the *abdomen*—with cold water (sometimes ice water). Care should be exercised to keep the portions of the body not being sponged covered.

Special attention should be accorded the back for here the tissues retain heat longest.

The bed bath or slush is employed when, for any reason, the tub bath is impracticable. The patient is stripped, a large rubber sheet placed under him and blankets rolled and placed under the edge of the sheet and pushed up in order to form a sort of wall or trough. Water is poured into the trough and

the patient given a bath and treated in exactly the same manner as when a tub bath is employed.

Drugs in the treatment of uncomplicated cases of typhoid fever are of little value, and the so-called "intestinal antiseptics" have been shelved. Urotropin (hexamethylenetetramin) $7\frac{1}{2}$ grains three or four times daily—especially in Bacilluria—has been of use. *Remember alkalis should not be administered at the same time that urothropin is given.*

In combating the toxemia, *water* is the most helpful remedy at our command. Fruit juices and sodium citrate, 10 or 15 grains every three hours would be of benefit.

Massage: By carefully massaging the lower extremities during the course of the fever, material benefit will be derived as these patients are capable of walking earlier than is usual.

Vaccine and serum therapy: This form of treatment of typhoid fever, while theoretically correct, has not yet proved of practical value. Vaccine in the form of sensitized product, according to Gay, has proved of worth in the treatment of typhoid. He claims that it lessens the severity of the infection and, in some cases, modifies the course of the disease.

Sensitized vaccine may be of value when administered early in the disease or during convalescence in that it may shorten the duration, prevent relapses and the more common sequelae, such as cholecystitis, periostitis, and other foei of typhoid infection. Furthermore, it may preclude the possibility of a recovered case becoming a "carrier." I would not advise, however, the giving of vaccine after the first week or during the third week of the disease. In this connection, it must be borne in mind that the administration of vaccine is the addition of specific poison to a system already burdened with this toxin which, during the height of the disease, is often all the body can withstand. The vaccine may be given intravenously as well as subcutaneously. It is well, therefore, to remember that patients react differently and, in administering vaccine, it is best to begin with a small dose, gradually increasing until the limit of tolerance is reached. The usual first small dose is about one hundred million killed bacilli, repeated at intervals of three days until three to five doses are given. Vaccine as a preventive has been definitely established.

Specific serum for the cure of Typhoid has not proved of any definite value. Theoretically, it should establish a lytic passive immunity, but such has not proved to be the case. Typhoid serum is rich in the antibody that destroys these specific microorganisms which, early in the disease, are freely multiplying in the circulation; therefore, their destruction ought to be occasioned in a short time by the intravenous injection of specific serum. In the test tube, the destruction of the bacilli is rapid and perfect, but in vivo, there is apparently something which prevents the reaction. The explanation on theoretical grounds is that anti-complimentary substances interfere.

Treatment of individual special symptoms: Constipation, in my experience, is by far more frequent than diarrhea. In the treatment of this condition, one must avoid drugs that increase peristalsis—or subsequently lead to a more persistent constipation. If the case is seen early, it is first necessary to thoroughly evacuate the bowel (for this purpose, I find *castor oil* the most efficacious). Following this treatment, the institution of a liberal diet—particularly rich in cream—will usually regulate the bowels. When constipation persists, the administration of mineral oil or simple enema will be beneficial.

Diarrhea should be corrected by proper dietary, for example, the withdrawal of cream, fruit juices, jellies, and, if this method is not successful, I would advocate the use of bismuth, chalk mixture and, in persistent cases, opium in some form in very small doses.

Tympanites: This usually can be overcome by regulating the diet. All food which tends to form gas should be diminished or withdrawn—(sugars, jellies, cooked fruit, etc., being in this class). Daily bowel evacuation usually prevents the occurrence of tympanites. Sometimes immediate relief from distressing distention is to be had by gently introducing a rubber catheter. The application of turpentine stupes is sometimes of service; turpentine enemas are of value in certain cases (half to one ounce of turpentine to one pint of water). Eserin and pituitrin are contra-indicated as they invariably increase peristalsis.

Hemorrhage: For this condition, the first essential is *absolute rest* and the withdrawal of all foods for at least twenty-four hours. Small quantities of water to quench the thirst may

be given. In order to insure rest and, at the same time quiet the bowel, the writer advocates small doses of morphine, not sufficient, however, to narcotize the patient or obscure the symptoms of perforation. The various agents that increase the coagulability of the blood may be given (such as horse serum, hemostatic serum and other thromboplastic agents). Transfusion of normal saline (or human blood properly typed) is desirable in critical cases where there has been a large loss of blood as indicated by the rapid fall in blood pressure.

Symptoms of perforation are abrupt, acute, sharp abdominal pain—frequently paroxysmal in character—but sometimes the pain is constant. Rapid increase in leukocytes, tenderness on pressure with rigidity, pulse and respiration usually increased. The writer has found the blood pressure suddenly increased to 30—40 mm. one hour after the symptoms of perforation occurred in two cases which subsequently proved to be perforation. During the course of typhoid fever, any acute abdominal pain should be regarded as possible perforation.

The *treatment* of perforation is immediate operative intervention which should be accomplished, if possible, preferably under local anaesthesia.

Convalescence: The patient should not be allowed to sit up in bed while the temperature persists even though there are periods of remission. Within 3—5 days after the patient is free of fever, he may sit up for short periods until strength is regained. Daily exercise after this should be gradual and, at first, very limited in amount. Ten days after the fever has entirely left, the patient may be put on a general full diet.

As to prognosis, it is impossible to lay down any special rule, because it depends upon the complications which may arise during the course of the disease. To be specific, we must consider the individual resisting power, the virulence of the organism, the question of intestinal hemorrhage, and secondary infection which gains entrance through the open ulcers in the intestines and through the respiratory tract as a lobular pneumonia.

The average mortality is about eight per cent. Of course, early recognition of the disease and institution of the proper treatment all tend to lower the mortality.

DISCUSSION.

Dr. F. T. Gouaux (Lockport, La.): I would like to ask if typhoid fever can exist without any lesions in the intestines, and if intestinal antiseptics are at all useful in typhoid fever?

Dr. Allan Eustis (New Orleans): We have all enjoyed Dr. Bel's paper and I know of no one better suited to present the subject. The first knowledge I gained of typhoid fever was from him, but during my practice in Southwest Louisiana, I had quite an extensive experience with the disease, and I was struck by the fact that most cases were associated with an intestinal toxemia, and that when this was overcome the symptoms were always milder. In typhoid fever we have lesions not only in Peyers' patches of the terminal ileum but also in the solitary follicles of the cecum, which causes a tendency to stasis in that portion of the intestinal tract at which absorption is greatest. Therefore, we should combat the tendency to intestinal toxemia by low protein and high carbohydrate diet from the start. Dr. Bel in advocating 60 to 70 grams of protein is considerably below that usually given, but in a series of twelve cases in Charity Hospital, the protein intake was as low as 35 to 40 grams, with a corresponding low nitrogen output. These patients all gained weight during the progress of the disease. We must remember that in typhoid fever the patient is at rest and if sufficient carbohydrates and fats are given, the protein needs are very little. Regarding hydrotherapy, I wish to recommend the use of hot foot baths in reducing fever in these cases. I have seen a temperature of 105 reduced to 101 and remain at a low level all night after a good sweat induced by a hot foot bath. Our efforts in the treatment of typhoid fever should be towards lessening the toxemia.

Dr. L. J. Menville (New Orleans): I would like Dr. Bel to discuss hydrotherapy a little more fully. There has been some little discussion relative to the merits and demerits of that treatment for typhoid fever, and I am sure Dr. Bel is sufficiently well posted to clarify this point.

Dr. W. H. Harris (New Orleans): The doctor touched lightly upon vaccines and serum therapy, but it might be of value to add a few words regarding the question of serum therapy. We know that a satisfactory antitoxin has not been secured for typhoid. On the other hand, in diphtheria, the results have been wonderful; likewise in the case of tetanus. These organisms, B diphtheria and B. tetani, have an ectotoxin, but in the instance of the typhoid bacillus, it is an endotoxin, and the consequence is that the results obtained are not nearly so brilliant. That accounts for the reason why serum therapy has failed in typhoid fever. As regards vaccine therapy, it has not completely failed, but the results have not been brilliant. The vaccines, of course, in these circumstances usually are put into a system where there is already a bacteremia, and we get the same result as we do in vaccines for various septicemias, wherein they do not do much good. The prophylactic powers of typhoid vaccine is too well known to warrant any discussion.

Dr. C. M. Horton (Franklin, La.): I am much interested in the diet, particularly in regard to milk. In the last few years I have not been treating as much typhoid as formerly, because I really believe these cases are much better handled in institutions and when they are able to pay for institutional treatment I always refer them to some such place. So my observation has been rather limited. However, I have come to this conclusion, that the use of sweet milk seems to me to produce tympanites, a condition which I have had a great deal of difficulty in controlling. However, if milk is not used, I am not able to keep up the proper nourishment of the patient, and when the patient gets up I feel that I have not handled the case

properly. I would like to ask Dr. Bel if there is anything that we can give, instead of sweet milk, that will keep up the nutrition?

Dr. D. J. McAnn: I consider this one of the most valuable papers I have ever heard on the treatment of typhoid fever. The doctor has covered the question from every standpoint and has not left a thing unsaid in regard to the treatment. From an internal medicine standpoint I wish to say that my trip down here has been entirely justified, and I feel I have been fully repaid by listening to this paper.

In regard to serum therapy, I think that serum therapy is a very valuable adjunct in the treatment of typhoid fever. I have treated typhoid fever for the last ten years, and where I gave serum therapy I did not have the amount of hemorrhage that I formerly had. But it should be given continually throughout the period of high temperature. In conclusion I want to thank Dr. Bel for this valuable paper. I believe I voice the sentiments of every internal medicine man here when I thank Dr. Bel for this paper.

Dr. T. E. Wright (Monroe, La.): I commend the paper most heartily. The present-day typhoid fever differs from the typhoid known to our grandmothers, not in virulence, but in treatment. Today they are fed and have abundant water; not so often do we see the dry, cracked tongue, the distended abdomen, the delirium. What the essayist has said about careful, painstaking directions to the nurse and attendants, certainly meets the approval of all good doctors. If I might presume a suggestion, based on thirteen years' experience only, which modesty might permit, I would say that a very valuable feature in the treatment is to vary the diet so that no one article of diet comes oftener than twice in twenty-four hours. This can be done with a little care and some planning. A regular bill-of-fare may be prepared by the physician; each two or two and one-half-hour period to get a certain specified feeding prepared along lines that are directed by the physician, with its caloric value noted,—to the end that each twenty-four-hour period gives a total caloric food intake sufficient to maintain the patient through the most harrowing experience he has ever had. The most substantial compliment to a careful physician comes through the friends of his convalescent typhoid patient, when they say: "You certainly didn't have typhoid fever, and look as well as you do."

Dr. W. A. Dearman (Long Beach, Miss.): Dr. Bel has fully outlined the treatment of typhoid fever in a scientific way, and I only want to warn against the danger of one particular thing, and that is with reference to instructions to the nurse or attendants in permitting the patient from suddenly turning himself in bed, especially the ones that are profoundly toxic, asthenic and in the latter weeks of the disease. I have had to come under my observation in the past ten years three cases of perforation due, in my opinion, to this cause. I could never see the rationale of administering vaccines in the treatment of typhoid fever. Recovery depends principally upon the development of agglutinins, and the development of agglutinins depend upon bacteriolysis and setting free the endotoxin of the typhoid bacillus. The individual develops his own immunity.

No serum has proven satisfactory in the treatment of the disease. Intestinal antiseptics have had their day and have been shelved. The treatment as Dr. Bel has so scientifically and practically outlined is safe, simple and sane.

THE UNUSUAL CHILD.

By **WALTER JOSEPH OTIS, M.D.**, New Orleans, Professor Neuro-Psychiatry,
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The nation's return to normalcy, together with the social adjustments of the people therein, has brought forth a greater desire to conserve. This applies to a large extent to medicine, which will be expected to safeguard the energies of the coming men and women of future times, in the person of the newly born, the child and young adult. This conservation, instructive and educational must be along the lines of proper living the daily rule of life, in a healthy and sane manner, in order that there may be a complete social adjustment of the individual. Alas, even from this class will be those who fail to adjust themselves, and who will be classified as unusual or bad children. The type which early in life is brought to the physician with the history of not fitting in with the home surroundings, school atmosphere, or playmates as other children do, whether there be one or many in the family, is a case in point. Another instance is the fussy child, who always appears headed in the wrong direction, is a bane to parent, neighbor and civic officials, who in a number of instances will become anti-social following a comparatively few years of existence. These in turn will be placed in the ranks of the juvenile delinquents, criminals, white slave cadet, lady-friend type, prostitutes, moral imbeciles, narcotic habitues, recidivist, panhandler, and young adult psychoses. It is concerning all of these that I shall speak of today.

Individuals differ; some fail where others succeed under practically the same circumstances and conditions. Why? Intelligence is the capacity of an individual to adjust his thinking to new requirements. It is a general adaptability to new problems and conditions of life. Through a correlation of special mechanisms we have as a result human behaviour. Any eccentric deviation from, or inadequacy of this behaviour leads to criticism of the individual. Should these persist to an extreme degree the person will become asocial to a greater or less extent.

The majority of these cases result from the union of the physically unfit, from improper mating and from excesses of various sorts. In other cases the offspring may be classed as unexplainable "step-children" of nature. In a number of cases we must not invalidate the Hypothesis of Lues. Included in these is the constitutional inferior, who may be recognized by the chronic, abnormal, social and mental reaction to the ordinary conditions of life, and who cannot be classified in any groups of the psychoses, neuroses or mental deficiencies. This individual generally shows physical anomalies, either structural or functional. This is the class many of us met while serving in the service during the late war as Neuropsychiatric examiners, or on Draft Boards. You all recall the "misery in the head" and "pain in the back" type still encountered in our own locality, in large numbers. Another type is the constitutional psychopathic inferior, who in addition, has an inadequate personality, with certain characteristics, namely: moral deficiency, sexual psychopathy, pathological lying, who may be also a vagabond or nomad. To these are sometimes added moral stigmata, i. e., inferior reactions to temptations, want of foresight as to consequences, feeble power of concentration, attention and remorse. There may be still further engrafted upon these the emotional inferiors paranoid personalities, emotional instabilities, the very suggestive type, easily fatigued, selfish, irritable, with fits of temper without adequate cause, cowardice, laziness, with marked indifference and mild depressions.

The mental defective we all know too well. They, too, have a place in this enumeration. As to these I wish to state in passing that they require immediate attention, rather than neglect, a better understanding rather than abuse, and a closer friendship within their own sphere, rather than isolation.

It will not be out of place here to quote the data issued by the National Committee of Mental Hygiene concerning the examinations made by the Neuro-Psychiatrists during the late war. This data only includes the cases examined by that personnel, when the entire force was in the field, and does not include cases which possibly escaped the medical examiner not always in sympathy with the necessities for such examinations. This occurred, of course, as a result of the want of proper understanding and better knowledge of the subject on the part of

the examiner. To May 1, 1919, there were 72,323 cases of nervous and mental disorders identified by Neuro-Psychiatrists. Of this number 22,741 were mental defectives. Should we add those rejected at local boards the total would reach 26,545. In the A. E. F. through one base hospital alone passed 1,475 on their return to the States. The above speaks for itself, and requires no further elaboration except to state that at one time these were children, and are today problems in preventive medicine for the physician, and Veterans' Bureau, and social conditions for some employer or parent. No doubt many of the 75% of the war marriages terminating as marital maladjustments are of this class. Quite recently there has sprung up in the schools of distant cities, cliques known as Shifters, who recognize each other by the wearing of a certain emblem, a hand grasp and password. This has resulted in the unwholesome fraternizing which has alarmed the school authorities and parents, being classed as dangerous to morals. In some instances vice clubs have been formed concerning which officials are protesting most vehemently. Were the above class examined, one no doubt would find the psychopath in the majority. This is on account of inherent suggestibility and weak resistance to temptation. Through this medium I wish to present in abstract, three cases occurring in one family referred to me by a confrere:

The Family History as given will suffice for the three cases to follow:

Paternal grandmother, psychosis. Paternal cousin, mental defective. Father history of repeated flare-ups in early life just as children are having now, later psychotic on reaching manhood for a period of one year, finally dying of tuberculosis at thirty-three. The mother, forty-four, is of the nervous, complaining type and from appearances and conversation is below the average grade of intelligence. The subjects of this paper have one sister living and well at twenty-four, who is a teacher in rural schools. One at twenty-one and nineteen, who are married and appear normal, so the mother states. One sister dying at sixteen of influenza; a sister living at fifteen, who is case two of this paper; another sister dying at one year of typhoid fever. One brother living and well, age 23, apparently normal; another, age eighteen, who is case three of this

paper. The living members of this family all have a language difficulty to some extent. The subjects of these cases are all fairly well developed and fairly well nourished and reach an intellectual level of borderline, normal. All examinations made along physical and laboratory lines were essentially negative.

Case 1. Female. Twelve years of age, youngest of twelve children, schooling at six, progressed with classes until 1919,; there were, nevertheless, certain behaviorisms which appeared from time to time, when she was irritable, fussy, petulant and non-co-operative with school, destructive, restless and inattentive, requiring much correction on the part of the teacher. These moods would continue at home to a greater extent. She was finally taken from school, brought to the office with an added history of fits of temper when she attempted to choke her sister, and throw things at the family. On examination she was flippant, petulant, admitted her misconduct, giving as a reason that the family and children annoyed her and she wanted to be let alone. She was, nevertheless, clear and relevant. Treatment was instituted and three months following she had adjusted herself to a large extent and was able to return to school and when last heard of was doing fairly well there.

Case 2. Female. Sister of above, age fifteen. Early life uneventful, except tantrums, night terrors and stubbornness. At onset of menses, which are irregular, she is restless, emotional, irritable and, as mother states, stiffens out. Attended school until two weeks before my visit to her. Found her quiet, though timid with a history of amenorrhea and mild hallucinosis, a condition in which she clung to her mother as though terrorized. Was careful of exposure, emotionally labile, answered questions relevantly. She nourished poorly and only after persistent effort of her mother. Following three months' course of treatment she was able to return to school, and from last reports was conducting herself satisfactorily.

Case 3. Male. Age eighteen, brother of above. Early life uneventful, except that he was not a regular attendant at school, during which time he was given to fits of temper and mild depression. Not a good mixer with the other pupils. He left school at fifteen, working here and there, no skilled vocation, complaining more or less of aches and pains for the past five years. At home the mother states he is easily upset, somewhat unreasonable and hard to get along with. Came to the office with his mother, they giving the following:

"That for three weeks previous he had been mildly depressed, he lacked initiative; this he states was due to the fact that he thought his co-workers were making fun of him. He was somewhat self-accusatory, concerning sexual matters (he denied venereal infection, likewise history of any exposure). Mother stated that he had repeated fits of temper at home during which he would strike his sister and have flareups, making it miserable for the family." He was clear and somewhat ashamed during the examination. Became emotional, stating he was unable to control himself because of his nervousness. He was treated for about two months, advised to change to another vocation, which he did. Last year he returned for a rheumatic condition and from history gained then, he had adjusted himself almost satisfactorily.

The aforementioned cases bring out very strongly the very suggestive type of these unusual children, happening in one family.

As to prognosis, what can we ultimately expect to happen to these children whose conduct reactions are not exactly normal. One group will adjust themselves fairly well to their social environment if conditions are favorable. That is, those possessing a certain degree of financial backing with proper home influence and surroundings. Another group will remain unchanged and grow up unstable men and women easily reacting to unwholesome stimuli, becoming delinquents and anti-social. There still remains a group which will eventually grow worse and become truly psychotic, thereby adding to our already overcrowded mental hospitals.

What can be done to reduce the very large numbers of these weak children? As regards the parent, a better understanding of eugenics, that is, giving due consideration to the physical side as being of paramount importance to their progeny. The teaching of mental, maternal and social hygiene at their respective epochs in the lives of the parents.

As regards the child, the enforcement of compulsory education wherein Americanism is taught in its entirety, for many are born among us today who are handicapped by a marked language difficulty. Furthermore, a closer and more scientific study of these children under surroundings conducive to their welfare and more rapid social adjustment when this is possible. This study should be conducted from every standpoint: internal medicine, endocrinopathy, neuropsychiatry and psychology. There should be specially equipped and intelligently governed psychopathic pavilions or classification centres, a department of which should be set aside for the study of psychopathic children. A well regulated psychopathic clinic should be attached to each juvenile court where each child should be examined. As to rural districts these clinics could be held at stated intervals near or connected with the various state mental hospitals the staffs supervising these examinations. This work can be facilitated to a large extent by the addition of a well regulated social service department, where follow-ups can be carried on. For those requiring temporary or permanent care, schools should be established where cases could be admitted either voluntarily or by commitment. At these schools, trades, occupations and psycho-therapeutic measures could be used as a means of aiding this class to help themselves, for among those entered

will be found the intellectually defective as well as the delinquent, which comprise one of our most difficult of institutional problems and who are potentially dangerous.

In conclusion, I trust I have succeeded in impressing you with the importance of certain facts, namely:

That the unusual child is always a potential problem, that something definite can be done to help this type of individuals. You can do this by teaching normal boys and girls they must not marry a misfit—because they will see the sad results in their children.

Besides this the profession can do a great deal towards stimulating the legislative and civic authorities to the crying need for the establishing of proper schools for the intelligent and humane care of these children.

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DISCUSSION.

Dr. Henry Dasnit (New Orleans): I think we should feel indebted to Dr. Otis for calling our attention to the handling of this particular type of personality in early life. Dr. Van Wart this morning went somewhat into detail about the mal-adjustment occurring late in life. If we could get these cases in childhood, I am afraid our neuropsychiatrists would not see many of them in adult life. The parents say these children are merely peculiar and bad. The parents as a rule cannot see anything wrong with them and we have to pick them up outside of the home for our first observation.

Incidentally, we must admit the influence of inheritance on the neuropathic constitution, and when we stop to think that those things which go to make up character formation are acquired early in life and always by imitation, and that the environment of these people of reduced resistance is dominated by the neuropathic parents from which they have sprung, we must consider more than the patient, and in almost every case we find a family problem. We must adjust the parents in regard to their attitude to that particular child, as well as the child. Dr. Van Wart spoke of part time or three-quarter time people, and we must find where they belong. The place to get them is in the public schools. We are supposed to have in Louisiana compulsory educational laws that are fairly indifferently enforced. The state school system should have one or more psychologists to weed these children out. These children show up in the public schools and should be handled in special classes. The special classes in our public schools are over-crowded with imbeciles who should not be treated in special classes, but really are a separate problem

altogether. It is in our school system that we will pick up most of these people.

Some of us have had experience in examining these sub-standard children in New Orleans. We can only lay the groundwork eugenically. It is all well and true that certain people should not marry, but they are the very type of people who gravitate together; they cannot meet the conflicts of life on an even basis with a normal individual and so they go off by themselves and usually intermarry. Compulsory laws might improve conditions two or three generations from now, but I think every medical man ought to regard himself as a disciple of that propaganda and try to cut down as much as possible the mating of the unfit.

Dr. H. P. Jones (New Orleans): For several years efforts have been made to establish homes for children who could not get along outside. Recently this has come to pass and we have with us this afternoon a man who has been through the country studying what is done with the feeble-minded in other states, and who has been through the best institutions the country affords. He is in position to tell us what we can expect Louisiana to do. I will call on Dr. T. W. Evans, superintendent of the Home for the Feeble-Minded at Alexandria.

Dr. T. W. Evans (Alexandria, La.): This is an old subject and I think Dr. Otis has covered it well. Dr. Daspit, in his discussion, referred to how we should reach the feeble-minded population of our state. The State Colony and Training School, an institution for the feeble-minded, has been started, and is located about five miles from Alexandria. Our problem in making a start along correct lines is large. We will have trouble keeping out certain patients that are not adapted to a training school. We should reach the sub-normal children in the public schools. We have planned as a part of our organization a group to do field work. This group will be composed of a physician, psychologist and social worker who will visit the public schools of the state, making mental and psychological examinations of all children who are three or more years retarded. These examinations will, of course, be made on those whose retardation is due to menal impairment and not lack of advantages. After positively determining that an individual is defective we wish to intelligently advise the parents and principals of the schools what is best for the child. The lower grade children will have to be admitted to our institution. By conservative estimate there are in Louisiana between seven and eight thousand feeble-minded people. Of this about fifty per cent should be institutionalized. This means that preparations should be made to train and supervise between three and four thousand such people. The immediate problem of our school is to procure adequate legislative appropriation. Our budget to the forthcoming Legislature calls for a \$600,000 building program. This amount would make a splendid start and will permit us receiving five hundred patients within the next two years.

The grounds of the State Colony and Training School have been laid off for future development, and to complete according to plans will cost during the next ten or fifteen years at least one and a half or two million dollars. If this expenditure is made we will not anything like take care of all of our feeble-minded population, so you can easily understand the magnitude of our problem.

I have just returned from Massachusetts, where I spent four months making a study of how they are handling the situation in their state. It may be said that all of their institutions for the feeble-minded are "schools" in the true sense. In the public schools of Boston and the State of Massachusetts ungraded classes are conducted for those who are not eligible to the various training schools.

The ungraded classes are conducted in separate buildings, and the contaminating influence of the sub-normal child is entirely removed from the normal group. In this way the normal child is not handicapped by the sub-normal. The feeble-minded population in the schools of any state is such a large problem that those states where it has been tried feel that it is cheaper to train and teach the sub-normal child in separate buildings under special supervision.

The work in Louisiana has just started. Very little building has been done on our new grounds, but the next time the State Medical Society meets in Alexandria we hope to have you visit us. We are very hopeful that we will be able to show you that Louisiana is awake to the needs of this heretofore neglected population.

The paper as read by Dr. Otis was certainly instructive, and very much enjoyed by me. I think it will help us all to better understand this problem, and I sincerely hope that all of you will remember that the State Colony and Training School is on the map, and that each of you will help us spread constructive propaganda so that future legislative sessions will make adequate provision for the feeble-minded population of our great state.

Dr. R. M. Van Wart (New Orleans): There is one aspect of this question which I do not think was properly presented. The marriage of these inferior people is much more prolific than the marriage of people in better circumstances. I recently had occasion to see a family of five, the highest in mental age being ten years. Both parents were feeble-minded. Look at the progeny of the better class of population and you find the number of children extremely small. I recently read an article on this subject in which the question was asked, "What is going to be the ultimate result of this? Will it not be that the better type of population will be swamped by the numbers of the unfit?" This writer goes so far as to give the present civilization less than 200 years to last. He looks at the present civilization from two points of view: First, that our sociology movements, such as child hygiene, the care of the unfit, is making it possible for them to increase at a ratio disproportionate to the other part of the population, whereas under more primitive conditions the unfit died from natural causes. Today, by the prevention of infectious diseases, we make it possible for the unfit to live, whereas under more primitive conditions this does not exist.

Second point of view is the effect of the improvement of machinery. This is making it more difficult for the lower class to make a living. Whereas formerly a man who could handle a pick and shovel could always find a job, today it is very difficult for a man of the lower order to find anything to do. Even farm labor requires a certain amount of ability. Today a man cannot run a farm unless he has mental ability enough to understand machinery. Fifty years ago if he could handle a mule he could make a living. The consequence is that the very essence of civilization has produced conditions which make it impossible for those unfit to live except under conditions of state socialism. The question of the amount that will be required by each state to take care of the unfit and those who can not earn a minimum wage and must be taken care of by the state, is a very important one, and those of us who form the tax-paying part of the population ask ourselves just where this will lead. This is apart from the subject of the paper, but it seems to me that where feeble-mindedness is concerned and those conditions which are on the increase, it is wise to ask just where this will lead us.

One thing among the many things that this state needs is a place for the man who wants help for some minor mental disturbance. He can go to a clinic or see a private physician, but if he needs

hospital care outside of a mental hospital he has no place to go. I think it should be the part of this society to urge upon the Legislature the necessity of the establishment of a psychopathic hospital where men could get proper assistance before they become a serious charge upon the state, and prevent this trouble at a time when it is possible to prevent it.

Dr. Walter J. Otis (closing): Thanks for indulgence and discussion. At the morning session the paper of Dr. Van Wart dealt with the problem in the adult; this paper deals with the child which is unusual. These children are not here of their own volition, their problem is our problem as well. To manage this we must have co-operation and legislation from all concerned. I speak for those who especially will be wards of the state; they are here and we must do all within our power to protect them.

THE LEUCOCYTIC COUNT AND ITS RELATIONSHIP TO VARIOUS CLINICAL DISEASES.*

By WM. H. HARRIS, M.D.

By the leucocytic count as herein considered is meant the total number of white blood cells per cubic millimeter of blood and the different varieties prevailing in each hundred of such cells. The most salient features emanating from such procedures are whether or not the total number of cells are increased and if increased, the percentage, especially of the polymorphonuclear neutrophiles.

This study of the total and differential leucocytic count is probably more generally employed for diagnostic purposes than any other individual laboratory test. It has its application in both the medical and surgical fields.

While the surgeon usually appreciates the significance of such counts occurring within his field, to the clinician its relationship to a particular disease is usually one of memory or he may seek its interpretation from the pathologist.

The purpose of these brief remarks is to demonstrate as far as may be practical, the actual relationship of the pathological lesion or lesions to the accompanying leucocytic count or the response, called chemotaxis, occasioned by the offending agent, if such response exists.

In order to more tangibly consider these phenomena it may be of value to discuss the three salient factors that are concerned in a disease process.

1st. The injurious agent, which is usually a bacterial invasion.

*Read Before the Louisiana State Medical Society Meeting, April 11-13, 1922.

2nd. The local response of the host.

3rd. The systematic response of the host as shown by the cellular elements of the blood and the serological or immunological reactions or formations.

1st Factor: In the first factor, while it is appreciated that there are various causes besides micro-organismal excitants which occasion a variety of diseases, the vast majority are produced by bacterial agents and it is these that we shall more especially consider. The various specific infectious diseases are caused by a very extensive number of known organisms such for instance as the streptococcus, staphylococcus, pneumococcus and the meningococcus of various types, the gonococcus, bacilli of typhoid, paratyphoid, dysentery, influenza, diphtheria, the pneumo-bacillus of Friedlander or *B. mucosus capsulatus*, the bacillus of glanders, anthrax, plague, the colon bacillus. All of these infections may be considered of a very intense and usually short time character and include many of the pathogenic bacteria or organisms capable of occasioning the formation of pus, i. e., pyogens. Into this group in this first factor may be included organisms, the specific response of which is generally of a different character, less intense in nature but more continued in their action and none the less fatal in their effect upon human life. These organisms are found represented in such forms as the various types of tubercle bacilli, the leprosy bacillus, the treponema pallida, the blastomycetes, actinomycetes and the like. It is not my intention to cover the index of pathogenic bacteria nor to dwell upon such protozoa as malaria, amoeba, trypanosomes, leishmania and the like nor to touch upon the filterable viruses. It is important nevertheless to carry out a certain amount of enumeration of these various causative factors under this consideration of the injurious agent to demonstrate how far reaching the mechanism of the leucocytic count may extend.

2nd Factor: In the second factor or the response of the host locally we find a very important consideration bearing upon the relationship of the disease produced and the effect if any, upon the leucocytic count. We must, therefore, consider the tissue changes or the histo-pathology which occurs in the area or areas of injury. In other words, it is necessary in order to elucidate this phase of the subject to consider just what

changes occur in a structure invaded by the various groups of organisms.

Certain of these organisms provoke one form of reaction, others another form; as a whole, the lesions produced may be classified as exudative, proliferative and degenerative. Any combination of these various components may exist in a given area. It is best to describe various examples in order to elucidate the 2nd factor, i. e., the response of the host locally as compared to the third factor or systemic response. If the tubercle bacillus invades the tissues of the lung, what phenomena occur? The organisms excite chiefly a proliferative type of lesion and for this reason we find that miliary tubercles are formed. These miliary tubercles are made up chiefly of epithelioid cells the derivation of which is considered to be the endothelium of various vessels in the immediate area. In conjunction with the epithelioid cell formation, giant cells which have their origin from the epithelioid cells are also formed. Accompanying this a low grade chronic inflammatory lesion characterized by lymphoid cells, may also prevail. When the tubercles attain a certain size, necrosis of the center or caseation occurs.

Thus we see that up to this stage, the response on the part of the host has affected only the local area as regards its cytological constituents and hence, the leucocytic count made at the ear lobe, finger or toe shows no increase or perhaps a decrease or leukopenia. This decrease may be due to an inhibitory substance emanating from the tubercule areas and acting upon the leukoblastic areas or to a decrease in certain nutritive substances of the blood supplying the leukocytogenic centers. It may be considered that the differential count often shows an increase in the percentage of lymphocytes which is in accord with the lymphoid cells appearing in the field of invasion. The sections, therefore, of the actual lesions are in accord with the blood count findings, i. e., no accumulation of polymorphonuclear neutrophils are found therein and hence no leucocytosis or neutrophilic cell increase are noted.

Another forceful example of the relationship of area of invasion or pathological changes produced and blood count findings, is found in the instance of typhoid fever. The typhoid bacillus through its endotoxin produces localized accumulations

or proliferations of endothelial cells, or phagocytic cells of Mallory, whether they act upon the solitary follicles of the intestinal tract, the accumulations of such follicles or Peyer's patches in the ileum, the mesenteric lymph nodes, the spleen or the liver. Thus, again we see that there has been no call for numbers of leucocytes and hence the total count or percentage of polymorphonuclear neutrophiles are not increased, in fact as in tuberculosis there may, for similar reasons, exist a leukopenia or actual decrease. In a similar manner the leprosy nodule, the proliferative lesions of the treponema pallida, i. e., the chancre or the gumma are found not to occasion a systemic cellular increase.

As an example of a violent acute lesion failing to demonstrate an increase of the leucocytes, we may consider the severe influenza cases existing in our recent epidemics. In the lung lesions of the rapidly fatal cases wherein no secondary invaders as the streptococci, staphylococci or pneumococci had appeared, the lesion was hemorrhagic in type with practically no polymorphonuclear neutrophiles present and hence leukopenia or absence of increase of the leucocytes existed. Many more such analogies exist but these examples appear sufficient to establish the relationship of the 2nd factor or the response of the host locally with the consideration of the leucocytic count.

3rd Factor: The response of the host systemically. In this group the cellular and fluid elements of the blood and the serological or immunological elements are to be included.

It is in this third factor that we find the interesting phenomena of leucocytosis. Unlike the preceding organisms such as the typhoid, tubercle or leprosy bacillus provoking a localized response, we find organisms which when they invade the body structures, be it brain, tonsils, lungs, liver, kidney, bone or elsewhere, produce specific biochemical substances which occasion not only an outpouring of the neutrophiles already present in the local vessels but even transmit this stimulating substance to the very factories of neutrophilic cell production.

Experimental evidence shows that cells respond to stimuli of various kinds but chiefly through the effect of these stimuli upon surface tension; if they decrease the surface tension, the cell goes forward, if they increase the surface tension the cell recedes. The behavior of the leucocytes in inflammation may

be explained on these grounds. At the site of cell injury or infection, chemical substances are produced that tend to lower the surface tension of the leucocytes and thus exert a positive chemotactic influence. Such a stimulus is capable of transmission via the blood stream to the centers in the bone marrow. Metschnikoff's various other phenomena also are noted locally.

While this particular factor of stimulation is possessed by certain micro-organisms, notably the pyogenic or pus producing bacteria, it must be noted that various chemical and physical agents possess local, constitutional or physiological powers of producing general or local increase of leucocytes. If croton oil, for example, is applied to the rabbit's ear, an extensive outpouring of polymorphonuclear neutrophils will occur. A positive chemotactic action has been produced in some biochemical manner although the leucocytes responding have a scavenger function rather than a defensive or fighting purpose as when provoked by invading microorganisms. From the system standpoint, baths, exercise, eating and other normal processes may temporarily stimulate the number of leucocytes. The most notable leucocytic phenomena, however, are produced by certain microorganisms, but just why some possess the capacity of producing these stimuli and others do not, cannot, of course, be explained anymore than one can tell why the typhoid bacillus should produce typhoid fever, the meningococcus, meningitis or the streptococcus an empyema.

It is in order in this third factor as in the instance of the second factor, to discuss the relationship of local pathology to the leucocytosis occurring concomitantly and this can best be done through certain diseases employed as examples.

In lobar pneumonia, we find in the stage of gray hepatization, the alveoli filled with polymorphonuclear neutrophils. These neutrophils have been derived from the blood stream. The total leucocytic and neutrophilic counts, therefore, show a marked increase in numbers. In meningitis due to the meningococcus, streptococcus or pneumococcus, the spinal fluid shows numerous pus cells and sections of the leptomeninges of the brain or cord demonstrates leucocytosis of the local vessels and an outpouring of leucocytes of the polymorphonuclear neutrophilic variety in the meninges themselves, hence the total leucocytic and neutrophilic counts are increased. (Contrast such

a meningitis to one occasioned by the tubercle bacillus wherein localized cells form the nodular lesion and we find no leucocytosis unless a secondary invasion of some other organism or a concomitant lesion elsewhere of a different nature has occurred or necrosis of tissue has created stimuli calling for the leucocytic response.) In tonsilitis, erysipelas, septicaemia, lesions are occasioned by the streptococcus in which we find numerous neutrophilic leucocytes and hence systemic leucocytosis. In surgical lesions of the mastoid, appendix, pleural cavity, peritoneum, liver, kidney bone and elsewhere, pyogenic bacteria provoke either an accumulation and destruction of leucocytes forming pus or a diffuse neutrophilic cell distribution and hence leucocytosis prevails and the polymorphonuclear neutrophiles are increased.

An acute appendix shows microscopically varying amounts of polymorphonuclear neutrophiles throughout its structure, all of which have diapedesed from the blood vessels. The variants in total counts and neutrophilic percentage represent variations in the character of stimuli both locally and upon the formation centers. Pus accumulations in the pleural cavity, fallopian tubes, and other areas while primarily accompanied by a leucocytic and neutrophilic cell increase during the formative period may subsequently show no increase, either due to the lack of further formation of stimulating substances or to a depression of the leukoblastic centers. Another feature to be considered is the formation of boils containing pus without a generalized leucocytosis. The pathological sections of such lesions show large numbers of neutrophilic leucocytes but these have been derived through chemotaxis from the local vessels without demonstrating a systemic leucocytosis or if these cells have been increased in order to supply such a demand, the amount of increase has not been appreciable by our current methods of technique.

The appearance of an increase of other forms of cells in the differential count such as the eosinophiles or lymphocytes is due to a modification of the stimuli, exerting a diminished surface tension upon these specific cells either locally or a specific stimuli upon the areas of formation. Subacute inflammatory lesions are characterized by a large accumulation of eosinophilic cells locally such as subacute salpingitis, appendicitis,

bronchitis and the like. Intestinal parasites produce astimulus not only locally upon the eosinophiles but also at times directly upon the leukocytogenic areas.

A combination of both second and third factors is appreciated for example in such lesions as tuberculosis and typhoid fever. Tuberculosis of the lungs, as previously discussed, falls within the second factor of local response, but when the tubercles conglomerate and caseate and finally communicate with a bronchial tube lumen, secondary invading organisms of a pyogenic character invade and pus is formed. At this stage sepsis is in evidence clinically and a leucocytosis and neutrophilic increase occurs due to this superimposed infection. In typhoid fever, in the proliferative stage occasioned by the typhoid bacillus, the reaction is from the local areas and there is no leucocytosis, when the mass becomes necrotic from plugging of the vessels through endothelial cell accumulation and blockage of blood supply, plus the action of the toxin, then again as in the tubercular cavity, pyogenic organisms create a superimposed lesion with the leucocytosis locally and systemically. When perforation occurs the peritonitis is produced not by the typhoid bacillus but by the secondary invading organisms with, of course, leucocytosis. The drop in leucocytes reported at times following perforation represents a depression of the leucoblastic areas or a devitalization of these physiological functions.

CONCLUSION.

There is set forth herein the relationship of various disease processes to the leucocytic count and also an explanation of the manner of this occurrence from the histo-pathological standpoint.

DISCUSSION.

Dr. R. O. Simmons (Alexandria, La.): The leucocytic count is a very important factor in diagnosis. Especially do we surgeons depend upon the leucocytic count in an acute condition where we suspect pus formation or serious lesions, and were it not for the blood picture in many of these cases the surgeon would be at sea. When I first began to practice medicine, as you all know, we knew very little about the microscope. What I have learned I have learned from younger men and by actual clinical experience, and I will leave it to the younger men who are better able to discuss this subject than myself, saying at the same time that in all acute suspected surgical lesions we depend very largely upon the leucocytic count.

Dr. H. P. Jones (New Orleans): I would like to ask if anything was ever brought out in the work carried out in connection with influenza cases as to the bone marrow. It was supposed that the bone marrow was a very serious factor in this disease, and I sent to Washington a great many sections of the long bones. However, I have never gotten any special report on that subject with reference to the leucocytic influence in this disease.

Dr. J. George Dempsey (New Orleans): This subject appeals to me from the tuberculosis standpoint and I would like the doctor to mention in his answers to queries. He mentioned the absence of leucocytosis in beginning tuberculosis and beginning typhoid fever, and then as the disease progressed and as the other conditions developed in typhoid fever there was a leucocytosis. Did the same thing occur in tuberculosis? I am not a pathologist, and it is information I am seeking.

Dr. J. A. Lanford (New Orleans): In his consideration of the value of the differential leucocyte count, the doctor did not mention the value from the standpoint of prognosis. We know that when the system is infected with pyogenic organisms, it responds readily with an increase not only in the total white cell count, but also in the comparative neutrophilic element, which response should go hand in hand with the severity of the infection. But if we have clinical evidence of an acute pyogenic infection, without the expected systemic response, as shown in the leucocytic count, we are warranted in using this evidence in prognosing the outcome of the case.

To illustrate this point we will take appendicitis. The patient will become suddenly ill with all clinical evidences of appendicitis. There will be a count of 20,000 white cells with 80 to 85 per cent of neutrophiles. If, for any reason, it is impossible to operate at that particular time, postponing surgical interference for 24 hours or longer, and we then find the case clinically declining, showing a white cell count of, say, 8,000 with a corresponding drop in the neutrophile percentage, we would know that the body is not properly caring for the infection and prognosis is unfavorable.

In this connection I would like to report a case of lobar pneumonia, which I saw in the last six months. This disease is always associated with a high leucocytic count and a high neutrophilic percent. In this particular case the first count, made within 24 hours of the onset, showed only 17,000 white cells and neutrophiles 88%. As the case progressed, daily blood counts were made and on the third day the blood count had fallen to 16,000 with 85% neutrophiles. The fourth day the white cells had dropped to 6,500 and 60% neutrophiles. The fifth day the white cells were 2,500 with 55% neutrophiles. The sixth day the total cell count was only 800 with neutrophiles 40%. Needless to say that death took place very shortly afterward.

It is therefore important to consider the leucocytic cell count both from the prognostic and diagnostic standpoint.

Dr. Allan Eustis: I would like to ask in regard to the post-operative cases. We see these cases of leucocytosis following operations. In listening to his explanation of the causes of leucocytosis, I do not see how a leucocytosis can be explained in any other way than by infection. It may not go to pus formation, but can you have leucocytosis simply by the absorption of hemolytic material?

Dr. W. H. Harris (closing): Dr. Simmons very clearly pointed out the usefulness of the leucocytic count, but I do not think there was any particular feature in his discussion that requires an answer.

Dr. Jones asked about the bone marrow in influenza. I am sorry to say that the information in such a regard during the recent epi-

demics has been very scanty. The majority of work appertained to the etiology, and there has not been a great deal accomplished in that field. We know that influenza carries with it a profound toxemia, and that such a toxine carried in the blood stream exerted a toxic effect upon the bone marrow. Degenerative processes were as a consequence observed and even hemorrhagic extravasation.

Dr. Dempsey asked about the leucocytosis that may occur in typhoid fever and tuberculosis. I would say that in both tuberculosis and typhoid fever it does not occur as long as the response called for is a proliferative response. These organisms or their toxins injure a particular area and the cells responding to that injury come from the immediate areas. We may have a miliary tuberculosis which may be acute and the patient may die without ever having a leucocytosis. As a rule, however, these tubercles are liable to secondary invasion by pyogenic microorganisms when caseous necrosis has occurred and portions escape through the bronchial tubes. When these other organisms invade they give rise to abscess of the lung which is accompanied by a leucocytosis, the leucocytes having been derived from the blood stream. In the intestines the same thing can occur, because when the ulcer breaks it permits invasion. In the instance of bones, where the secondary organism cannot come in, we do not get a rise of leucocytes. In typhoid the same situation occurs as long as the lesion is a proliferative lesion, but when secondary invasions occur in these areas, we do find an increase in leucocytes.

Dr. Lanford spoke of the interpretation of the leucocyte from a surgical standpoint. We practically always refer to the neutrophilic response. We do find certain unusual exceptions; for instance, I remember a case of salpingitis in which there was a total count of 35,000, with eosinophiles 85%, showing the possibility of the eosinophiles taking the role of the neutrophiles in the sub-acute variety of lesions. This was a very unusual case seen about two years ago. The reason why the leucocytes drop is because of the fact that the stimuli do not provoke the direct reaction they should. In other words, a positive hemotaxis and proper reduction of surface tension of the leucocytes do not occur, and the individual has practically been devitalized.

Dr. Eustis brought out another phase, and that is the manner of increased leucocytes due to other causes than infective material. We get physiological leucocytosis following a meal, or exercise, and various other physiological functions, which are not permanent. The leucocytes he refers to represent the leucocytes responding for lytic or scavenger purposes. In other words, leucocytes have a two-fold function, the function of defense and the function of aiding in the absorption of whatever process may be going on following these procedures when there is naturally a tremendous amount of material thrown off which calls the leucocytes to that area. We can occasion, by the application of croton oil or sulphuric acid to tissues, though the area be sterile, a marked leucocytosis, because the injury to the tissues calls for those leucocytes which come there in a scavenger role.

Dr. Bel saved me the trouble of going into the discussion of the various details and very kindly added additional information to the work. I regret the fact that the paper is not as replete as I should like it to be for the reason that the subject is so extensive and time would not permit. I thank you.

A PUZZLING CASE OF FEVER.*

By A. E. FOSSIER, A.M., M.D.

The uncertainty of opinion as to the diagnosis of this case compels me to present it to this Society for your consideration:

X. Z.—White male, born in Louisiana and a resident of this city. Civil engineer and contractor, 38 years of age. Has not been out of the city for over a month.

January 28th: The patient was well in the morning, played tennis in the late afternoon, but had to discontinue because of feeling badly. That same evening he had a chill followed by a high temperature, which rose to 103 degrees.

January 29th: He had 103 degrees of fever all morning. Visited the patient for the first time about 5 o'clock that afternoon. Found the following condition: Face extremely flushed, florid, extremely congested, the redness and florid condition extended down to the upper portion of the chest; eyes injected, marked photophobia; severe pains in the head; soreness and feeling of great discomfort in the region of the epigastrium; some flatulency. Lungs, heart, liver and spleen were normal. Temperature, 103 $\frac{3}{5}$ degrees. Pulse, 86. Patient vomited three times, slightly constipated, was purged with calomel.

January 30th: The condition was the same as the previous day but was aggravated. Complained of insomnia. Pains especially in abdomen and head. The temperature in the morning was 102 $\frac{3}{5}$ degrees; in the afternoon it rose to 104 degrees. At about midnight he had a chill which was followed by a rise of fever to 103 $\frac{3}{5}$ degrees. The pulse was between 63 and 68.

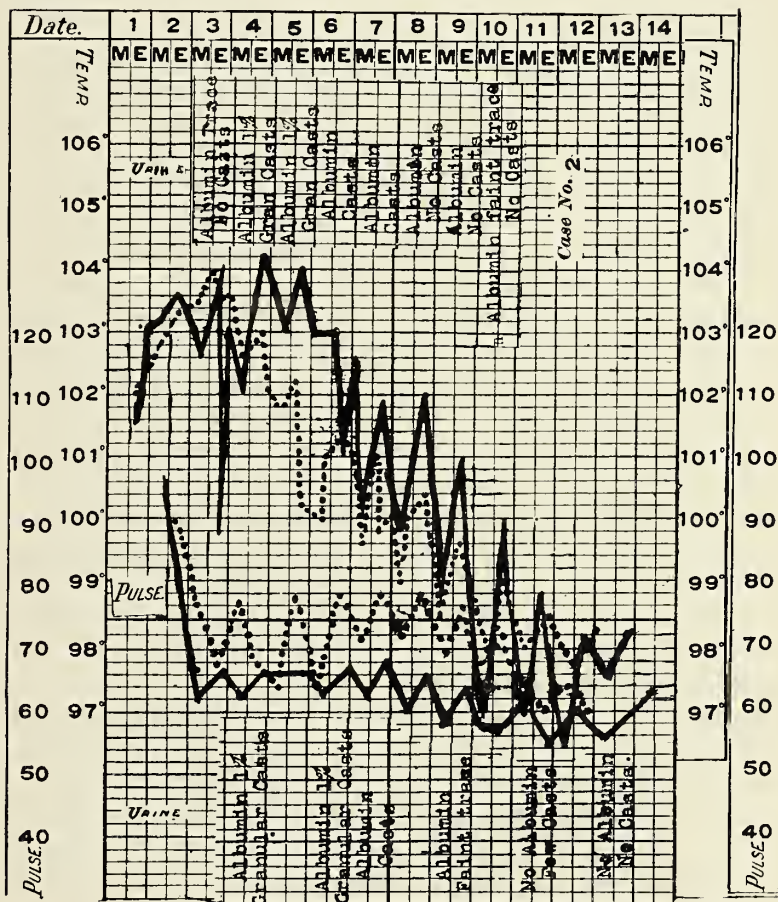
January 31st: The patient presented the same symptoms, the temperature ranging between 102 and 104 $\frac{1}{5}$ degrees. Pulse 62 to 68. The urine was examined for the first time and showed 1% of albumin. Specific gravity 1.028, very acid, color dark brown (Port wine color), coarsely granular and hyaline casts (bile stained).

February 1st: The temperature at noon was 103 degrees. In the afternoon the patient was feeling better and the epigastrium pains were relieved. At about five o'clock in the afternoon he had cold sweat followed by a chill, after which the

*Read Before the Orleans Parish Medical Society.

fever rose to 104. Pulse 66. Severe epigastric pains followed. This was his worse night. Urine examination: no change except urine slightly lighter in color. Complained of insomnia.

February 2nd: Temperature all day stationary about 103 degrees. Pulse 62 to 66. At 10:30 o'clock that night the tem-



CASE 1. "Solid lines." Temperature and pulse chart of the case presented by the author.

CASE 2. "Broken lines." Temperature and pulse chart from one of the experimental yellow fever cases reported by the U. S. Army Yellow Fever Commission. (From Stitt.)

perature dropped to 101. Urine showed albumen, casts and lighter color.

February 3rd: Patient greatly improved, temperature down to 100 degrees. Pulse between 60 and 68. Urine improved. Faint trace of albumin, few granular and hyaline casts.

Blood examined by Dr. C. C. Bass: *Negative Plasmodia*. Total white count, 6750; polymorphonuclears, 68; small lymphocytes, 23; large mononuclears, 7; eosinophiles, 1; myelocytes, 1; Widal, negative. Urine and fecal examination by Dr. Gomila. Stools very fetid (putrid) no occult blood, color, black.

February 4th: The patient continued to improve, feeling much better. Fever varied from 99 2/5 to 101 1/5 degrees. Pulse 60 to 65.

February 5th: Temperature subnormal for the first time. Pulse 58 to 62.

February 6th, 7th and 8th: Temperature subnormal. Pulse 54 to 60.

The patient was seen by Dr. Lerch in the forenoon of the second of February and later that day by Drs. C. C. Bass and Gomila. They all agreed that the symptoms warranted a suspicion of yellow fever.

In view of the suspicious character of the symptoms I sent a history of the case to Dr. John Callan, president of the City Board of Health, and he, together with Dr. Williams and myself, visited the patient. The following day Dr. Callan again visited the patient accompanied by Drs. Williams and Ebersole of the United States Public Health Service. The opinion of these gentlemen as expressed by Dr. Callan was that there was nothing suspicious in the case.*

It is evident from the onset, course and termination of this illness that we were dealing with an acute infectious disease. The patient was well previous to the initial chill. He was under my observation twice a week for over a month before this illness. He was being treated for a cystic goitre and showed no manifestation of toxic symptoms. The pulse was 76 and was at all times normal, and the urine free from albumin and casts.

Now what is the diagnosis?

Dengue is excluded because: (1) The temperature chart. (2) The low pulse (in this case Faget's law so clearly demonstrated) sometimes found in Dengue, but never as low as in this

*Since the reading of this paper a mosquito survey of the city was planned by the City Board of Health.

case. Touatre¹ says: "This phenomena of the slowing of the pulse in Dengue has impressed certain physicians, although it is produced only at the termination of the disease, while the phenomena of progressive fall occurs only the first three days of Yellow Fever." Also L. C. Scott² tells us that: "The pulse has usually found to increase fairly proportionately to the temperature (44.74%) but many instances of a slow pulse have been noted (25.53%). The rate varied between 70 and 150." (3) The lack of pains in the joints and the muscles. (4) Absence of the characteristic eruption. (5) The presence of Albuminuria and casts. (6) The absence of marked leukopenia.

Pneumonia: Lungs absolutely free of all pathological symptoms.

Influenza is eliminated because: (1) The onset. (2) The absence of coryza and of other respiratory involvement. (3) The slow pulse. (4) The early albuminuria, etc. (5) The quick recovery. (6) The general aspect of the patient. (7) The normal spleen, etc.

Malaria is eliminated by reason of the absence of the malarial parasite in the blood, the normal spleen and liver, and the subsidence of all symptoms without the use of quinine or any other anti-malarial remedy.

Typhoid is debarred from consideration on account of the negative Widal, the onset, duration and character of the illness.

Abdominal conditions and disease of the gall bladder must also be excluded. The lack of any previous similar attacks in the patient's history. The normal blood count which definitely speaks against any pus or inflammatory condition in any case presenting such severe symptoms. The presence of the albuminuria and casts and their rapid subsidence do not point to any abdominal diseases.

From the symptom complex presented by this patient we can not but deduct that it resembles Yellow Fever and in fact that it presents the characteristic symptomatology of that malady.

Guiteras³ lays stress that three diagnostic points are sufficient for the diagnosis of Yellow Fever, namely, the facies, the albuminuria and the slowing of the pulse with maintenance on elevation of fever.

The cardinal symptoms of this disease as they are handed down to us since the days of Dezeve⁴ and Rouchaux⁵ in the

early 1820 to the recent report of Charles Elliott⁶ (clinician for the commission for the study of Yellow Fever during the summer of 1918 at Guayaquil as submitted to the International Board of the Rockefeller Foundation) are the same, distinct and clear-cut. They are: the sudden onset, beginning with a chill followed by high temperature generally in the evening or at night. Duration, 8 or 10 days. The facies. Affection of one paroxysm. Faget's phenomena of lack of correlation between the pulse and temperature. Pains in the epigastrium and over abdomen. Albuminuria, dark scanty urine, bile stained casts, etc., manifesting itself as early as the second day. In cases of moderate intensity the albumin lasts 2 or 3 days, with normal blood and with an increase of the large mononuclears, spongy and bleeding gums, capillary stasis, and the gradual and progressive development of jaundice and black vomit.

Tourtrel⁽¹⁾ says that Yellow Fever presents symptoms, which when grouped and seen in block, make it a perfectly typical affection resembling no other morbid entity.

Stitt⁷ says that the main points to consider in the diagnosis are: (1) The facies; (2) the severe cephalalgia and rachialgia; (3) the early albuminuria; (4) the epigastric tenderness; (5) Faget's law of lack of correlation of pulse and temperature; (6) the absence of clouding of the consciousness, and finally the late appearance of the jaundice and hemorrhages.

This patient manifested all the symptoms as set down by Stitt and other authorities, except black vomit and extreme jaundice. In my patient there was a suspicion of jaundice. It is an established fact that the presence of the icterus is not a constant symptom of that malady. All authorities agree on that point. For brevity sake I will quote only a few.

J. A. Rouchaux⁵ in 1828 wrote: "Not only jaundice does not especially belong to Yellow Fever, but it does not always present itself in that malady. In the number of those who recover, on the contrary, there are at least half who do not have jaundice."

Dezeve⁴ in 1820 admonished: "I will repeat again so that it will not be forgotten, and that we should not be tempted in certain cases, to deny the existence of Yellow Fever because one or the two (jaundice and black vomit) are absent or because both may be missing in the same patient."

W. Griesinger⁸ in his book of Infectious Diseases, published in 1868, says: "In fortunate cases, jaundice does not develop, and even less so the hemorrhages."

Charles Elliott⁶ says also that jaundice is inconspicuous in most light cases.

It may be advanced that Yellow Fever does not occur in January; yet the first case to die of Yellow Fever (confirmed by autopsy) in 1858 was in January, and there is a record of death of that disease in that month in 1898. The mildness of the winter, the absence of freezing weather, the presence of the carrying mosquitoes and the prevalence of Dengue (which occurred rather late in the summer) are good arguments for its possible presence at that time.

In any epidemic of Yellow Fever this case would undoubtedly have been classed as such.

What is the nature of this case after all? By what name shall we call it? My reason for presenting it to you is because I feel that all puzzling cases of disease should be presented for discussion in this Society.

All signs indicate to the possibility of a visitation of this scourge this summer. For conditions today are such that there are possible ports of entry besides the regular quarantine stations. Contraband commerce is rampant, multiplying our relations with Latin-American countries and islands and especially with Mexico, without Federal Health Supervision.

Stegomyiae are plentiful here, our efforts should be directed to eradicate them.

May this not be a warning or precursor of what the next summer may bring?

I close with the appropriate warning of that respected confrere and sanitarian, Sidney Theard⁹: "We cannot brush lightly the possibility of future infection? Just as long as Yellow Fever exists, and I am yet to learn of a single disease which has ever been wiped out from the face of the earth (names change, but diseases remain), just as long as there are stegomyiae flying loose somewhere in the wide world of ours, just so long will we reckon with the possibility of the re-introduction of Yellow Fever infection and be prepared to prevent its spread when it appears."

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DISCUSSION.

Dr. C. C. Bass: I took advantage of Dr. Fossier's invitation to see this case largely out of curiosity, because it was suspected he had yellow fever. I had the opportunity of seeing a great deal of yellow fever in 1905 and got certain impressions, lasting to this day, with regard to yellow fever. I confess that when I saw the case and heard the history I was so confident that we would be able to find malarial plasmodia that I did not think much about yellow fever when I was there. Needless to say, the patient did not have malaria, as I suspected.

As I recall yellow fever, this case lacked three particular symptoms,—or lacked sufficient prominence of these symptoms:

1. Gingivitis is present and usually marked in all cases of yellow fever. It was present, but in a lesser degree than I would expect.

2. Capillary stasis; although present in this case, was not present to the extent that my impression would lead me to expect if this was a case of yellow fever.

3. Icterus by the third or fourth day is present in a very large percentage of cases, if not all, and in this case was not marked. In my mind there is no doubt as to whether it was present at all.

After seeing the case and examining the blood and removing from my mind in particular the question of malaria, I was then, and am yet, unable to say that the patient did not have yellow fever. I cannot say he did have it, but I cannot say that he did not.

Dr. A. E. Fossier (closing): I am gratified that Dr. Bass saw this case. The reasons refraining the doctor from making a positive diagnosis of yellow fever are of a minor character. I have looked up the literature and I have also consulted older physicians (who know yellow fever) as to the presence of icterus in that disease. Dr. Lerch, who saw this case, had a severe attack of yellow fever in 1897 without jaundice; this, I am sure, Dr. Gessner, his physician at that time (present here tonight), will confirm.

Again I wish to emphasize that Rouchaux nearly a century ago stated that in over one-half of the yellow fever cases that recovered, there was no jaundice. All authorities since that time agree on that point. From the evidence submitted we are forced to conclude that the absence of jaundice does not deny the presence of yellow fever. This patient gave all the major manifestations of yellow fever. There is no other acute infectious disease that will fit in the clinical picture presented by my patient. Again I ask what is it? The patient was seriously sick, and today he is well. A few have said it was not yellow fever, but to my knowledge they have not given it a name.

I think it very fortunate that cold weather set in. This case presented symptoms characteristic enough to warn our authorities; as this may be a forerunner as to what may happen this summer.

This is the reason why I present this case to the Society.

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THE MEDICAL PARASITE.

The big, basic idea of "take and give" enters not into the parasitic life led by too many members of our altruistic profession. The true parasite takes all and gives nothing in return. So it is with the medical parasite, he sucks the lifeblood from the vast storehouse of knowledge treasured in current literature and in textbooks. He enjoys all the rights and privileges of organized medicine. In every worldly sense he walks the path of velvet. But the medical parasite makes no return to his profession whence these blessings flow. He tacitly recognizes the power, the worth and prestige of medical organization. He pays tribute to Esculapius and is even on the roll of the local and State societies. But his is a passive membership.

He spins in the web of his fancy that he is too busy to attend meetings. Or he pours the flattering unction to his soul that such attendance would be waste of time. Why go hear rehearsed platitudes and listen to the recitation of a whole rosary of empty phrases? This is the Philistine conceit of "I know more than thou." Nevertheless, to save us from a deadening intellectual inertia the quickening work of medical societies must go on. The medical parasite fails to realize that in order to get his mental pabulum some must write and read papers for him. Some must discuss them, but all must catch the finer spirit and the lofty purpose of such meetings. The parasite, forgetting the high ideals of our calling, is satisfied to live off the other fellows' lifeblood and sweat, through the medical journal. Remember, he is not a slouch. He is self-satisfied. He is successful, but not venal. In fact, he may be the very personification of the good Samaritan. Success alone should make him grateful and inspire the desire to offer something from his personal experience. All of us cannot blaze new pathways. But even as trailers along the beaten path our daily contact with the Protean forms of disease gives the ever present opportunity of registering a new observation, or lighting on some new surgical, or some new therapeutic wrinkle. No one is so poor in experience, or so barnaced in ignorance, that he cannot add his humble mite to the sum total of medical knowledge. Medical progress depends on these individual accretions. The parasite's impuissance in doing this is sheer callousness and supreme indifference. Is it ever an overpowering timidity in self expression? Then one can escape the reproach of parasitism by mere attendance at meetings. This in a way is a silent contribution of good will and encouragement to the active workers.

Shade of Esculapius! They need to be encouraged less they falter. They need to gird their loins, these torch bearers, so that when they are brought face to face with seemingly insuperable obstacles they will be spurred on to carry the light still farther.

Gentle reader, the day for the conversion of the medical parasite is at hand. We are on the eve of our annual State Society meeting. Make it memorable by bringing one convert with you, and there shall be great rejoicing "over the return of the sheep that had gone astray."

BEWARE!

A few months ago we issued our periodic warning about the danger from mosquitoes, basing our latest argument upon the epidemic of dengue just then ending and calling attention to the fact that if the disease is propagated by means of the same mosquito which transmits yellow fever, only a spark, represented by an imported case of the latter disease, would be needed to start a conflagration of yellow fever.

If we had any illusions as to the results to be expected from our contention they certainly have been dispelled ere this. Nothing that we know of came of it.

But now another phase of the subject is presented in a paper, read by Dr. A. E. Fossier before the Orleans Parish Medical Society and printed in this issue of the *Journal*, entitled "A Puzzling Case of Fever." Like our former editorial this case has apparently attracted little attention, yet, in our opinion it is of vast importance. It seems to us that Dr. Fossier has made his point. If that case was not one of yellow fever what was it? In the absence of a definite bacteriological test, still lacking in yellow fever notwithstanding Noguchi's researches, or of a post mortem examination, which luckily for the patient was unavailable, no stronger proof of the identity of a disease or condition may be presented than by a diagnosis by exclusion. As Fossier puts it, "what is the nature of this case after all; by what name shall we call it? He is right also in dismissing as futile objections the absence of black vomit and of pronounced jaundice: the latter is frequently so mild in cases of moderate severity as to escape observation almost, and black vomit occurs only in a minority of non-fatal cases and not invariably in fatal cases.

What we must not close our eyes to is that we have stegomyia mosquitoes in this State; that irregular hence unobserved lines of communication exist with tropical countries because of the rum traffic with tropical territory; that we have had at least one very suspicious case of fever; that we have had all told an exceedingly mild winter. That quadruple combination is one filled with danger. This community must be made to realize it and its doctors and sanitariums are the ones to make it do so.

We hear of preparations for a mosquito survey. An excellent thing although its results may fairly be discounted, but we must not lose time if any practical results are to follow. This is the first of April and it must not be forgotten that in the past yellow fever has been known frequently to start in May.

Fortunately conditions have changed: there are no longer the same horrible dread of the disease, the same temptation to conceal its presence, the same danger in telling the truth about it. We have, on the other hand, the knowledge of its method of propagation and for its control, but prevention nevertheless is still far better than cure and it behooves us to act promptly and energetically in accordance with that wise old precept.

U. S. HOSPITAL 66.

The Congress recently adjourned voted an appropriation of six hundred and seventy thousand dollars for improving and enlarging the capacity of United States Hospital 66 at Carville, Louisiana. This hospital, the National Leprosarium, at present can accommodate one hundred and seventy patients and is full to its capacity. The appropriation will permit the erection of buildings sufficient to house and care for three hundred and thirty more inmates. Whether or not five hundred beds will be sufficient for the number seeking admission is not positively determined, but indications point to a far larger number of lepers in the States, and from the number of known cases at present waiting admission it may be inferred that more than five hundred will voluntarily apply for admission.

From the favorable disposition of the last Congress it may be hoped that the future needs of Hospital 66 will be provided for also. We note with pleasure this advance towards the ideal of a former editor of this journal, Isadore Dyer, through whose efforts over a quarter of a century ago was established the little colony from which has grown this national enterprise.

In the light of present knowledge it may be said that segregation is the best means of combatting the spread of leprosy, and while this fact is the "raison d'être" of Marine Hospital 66, it is possible that with its unusual opportunities for study, an even larger usefulness may be obtained by the solution of the baffling problems of treatment and method of transmission.

SOCIETY PROCEEDINGS.

**PROCEEDINGS
OF THE
HOTEL DIEU STAFF.****Monthly Meeting for March, 1923.****The President, Dr. Homer Dupuy, in the Chair.****CHRONIC SPHENO-ETHMOIDAL SINUSITIS.**

DR. HOMER DUPUY could not present his patient as she was in bed with the grippe. He stated however that she was subject to headaches for many years. There was a profuse, purulent nasal discharge from the left cavity. Her general health seemed affected as she had lost 20 pounds. A previous middle turbinectomy had given no relief to the pain or to the discharge. On January 16, 1923, complete left Ethmoidectomy was done. The anterior wall of the left Sphenoid Sinus was entered with Dupuy burr. The sinus contained pus. Circular movements with the burr through the bony wall established an opening, and practically the whole of anterior wall was removed. At present date headaches and nasal discharge were greatly relieved. There were no eye symptoms before or after operation. This case was reported to emphasize that in a region surrounded by so many vital structures the hand burr presented many advantages. It entered the anterior wall of the Sphenoid quite readily and with the least amount of jarring. It was the safer and more efficient instrument. An X-ray of the burr in situ was exhibited. The picture was taken by the Hotel Dieu X-ray Department and was one of the first of its kind. The burr was shown in the Sphenoid of a living subject. Dr. Dupuy said that only a few years ago it was predicted that the Sphenoid Sinus would prove inaccessible to surgery. He deprecated this lack of prophetic vision.

DR. DIMITRY was pleased to note the increased interest in the sphenoidal sinuses. He believed that many an atrophy of the optic nerve had been unaccounted for, as a result of the want of better knowledge and surgical skill in handling these air spaces.

He was interested in the study of the development of the air spaces and sounded a warning as regards increased care in diag-

nosing a sinusitis in childhood. He had had much opportunity for the study of the sinuses in stereo but expressed the opinion that the Granger technic for radiographing the sphenoidal sinuses was a great step forward and superior to the stereo. In the taking of radiograms of the sinuses, he recited the necessity for blowing the nose just before, for it often cleared what would appear as an increased density in a picture.

It would surprise many to learn that a sinus might be very much diseased yet give very few objective symptoms with the exception of accommodation difficulty and muscular asthenopia.

DR. LAROSE had not had very extensive experience with operations on the Sphenoid Sinus. This field was admittedly a very difficult one. He had seen the picture of a burr for Sphenoid work similar to the Dupuy instrument. However, this did not detract from the merits of Dr. Dupuy's burr. The picture shown with the burr within the Sinus was most unusual and was the first one he ever saw of that character.

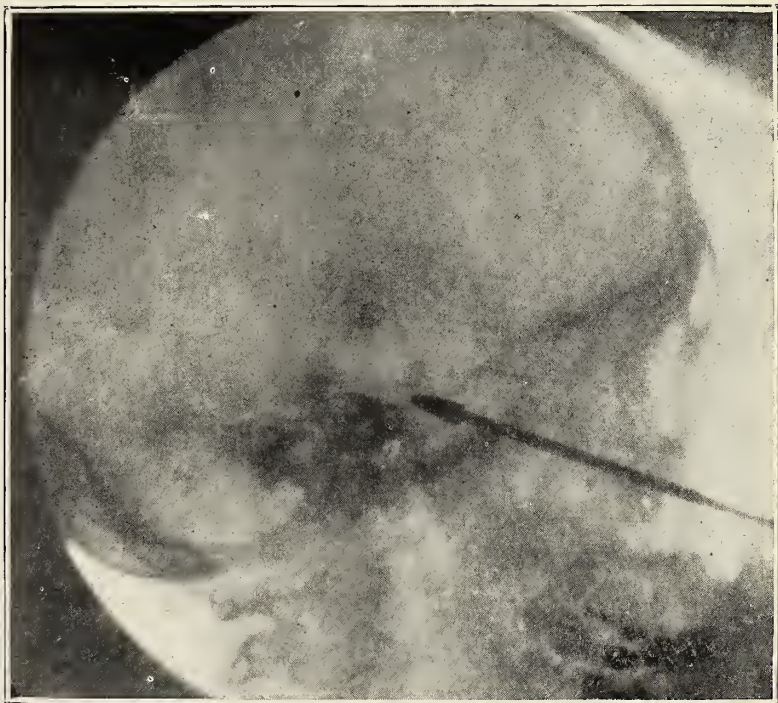
DR. MAURICE GELPI felt that Dr. Dupuy was to be congratulated for adding something new to the general store of useful surgical instruments. Most of us were too prone to accept the contributions of the pioneer and yet little inclined to make contributions of our own. It was much easier to take than to give. By his demonstration, Dr. Dupuy proved that he belonged to the laudable class of constructive contributors.

In this connection he referred to the X-ray work of Dr. Amedee Granger on the ethnoids and sphenoids which should prove of unusual interest particularly to the men specializing in nose and throat work.

EVISCERATION OF EYE WITH TRANSPARENT CORNEA.

DR. DIMITRY presented a case which he operated upon fifteen years ago, showing that the cornea will remain transparent after the contents of the globe have been removed and a hollow glass ball implanted within. The man was thirty-eight years of age. The operation was a substitute operation to replace the enucleation of the eye. He often used colored spheres instead of the white glass ball.

The cornea remained transparent and did not slough, though all nutrition and nerve supply from within the globe had been removed during the process of eviscerating. The sclera could



Showing Dupuy burr in left Sphenoid Sinus in the living subject.



Tracing by Dr. Dimitry of X-ray picture to better outline Sinus.

be studied within and the posterior window seen, where the optic nerve had been severed. He had performed the operation a number of times.

Dr. Dimitry said that the operation had for an ideal, non-disturbance of muscles, retention of the same shape and contour, retention of the cornea, dispensing with the prosthesis, in fact accomplishing all that was desired with the exception of vision.

THE LOUISIANA STATE MEDICAL SOCIETY

Will Meet in

NEW ORLEANS ON APRIL 24, 25 AND 26

**PROCEEDINGS
OF THE
TOURO INFIRMARY STAFF.
Monthly Meeting for March, 1923.
Dr. M. Feingold in the Chair.**

OBSTRUCTION OF COMMON DUCT.

DR. RUSSEL E. STONE reported a case of common duct obstruction following cholecystectomy elsewhere.

Following this operative procedure, the patient became extremely jaundiced, developing nausea and vomiting. She began to lose weight rapidly. About two weeks after the operation she had a chill, and high temperature every 72 hours. This condition was thought to be malaria. She was treated by large doses of quinine.

The patient arrived at Touro in the ambulance extremely jaundiced and very much emaciated, unable to eat and what little she did eat, was unable to digest. Her coagulation time was 12½ minutes. Diagnosis of obstructive jaundice was made and operation was done.

The old scar was reopened. Multiple adhesions were encountered. The stomach was pulled over to the liver. The liver was rotated and after a great deal of difficulty was brought up. The peritoneum over the duct was opened and the hepatic and common ducts were isolated. The common duct was mobilized, the hepatic duct aspirated and bile found. Two guy sutures were introduced into the common duct. The duct was opened longitudinally and a stricture found apparently resulting from ligation in the previous operation. The stricture was cut and dilated with a graduated sound into the duodenum. A probe was passed up the hepatic duct which was found to be patulous. Instead of a tube, a small catheter was passed up the hepatic duct and another into the duodenum and anchored with small catgut sutures. The idea was to decompress the liver. By bringing both drains out of the abdominal wound and connecting same with connecting tube, bile could be seen as it came from the hepatic duct through the glass connecting tube into the common duct. This had the advantage over the T tube in case one wanted to feed the patient through the duodenum. The lesser peritoneal cavity was opened at the gastro-

hepatic omentum and head of pancreas exposed which was found to be enlarged, thickened and indurated, showing evidence of infective pancreatitis due to obstructive cholangitis.

The patient left the operating table in very good condition. She was put on a Murphy drip of glucose and sodium bicarbonate and hypodermoclysis. She was practically kept alive on alcohol the first week. Drainage was left in situ for 3 weeks and then removed. Discharge of bile continued for about 48 hours, then ceased. Recovery was uneventful. At the end of four weeks she had gained 17 pounds and was able to eat anything. A Jutte tube was passed after her arrival home and clear transparent bile obtained.

CONCLUSIONS.

First, since the post-operative intra-abdominal hemorrhages were the cause of death of these patients, the coagulation time of blood should be determined before the operation. If the time was lengthened beyond six minutes, attempts were made to reduce it by intravenous injection of calcium chloride plus blood transfusion.

Second, calcium chloride given intravenously reduced coagulation time of blood and combined with the bile pigments circulating in the blood stream rendering them less toxic.

Third, the lack of glucose supply in the tissue of the body as a result of toxic liver cells was overcome by supplying glucose direct to the tissues by proctoclysis and subcutaneous injection.

Fourth, large quantities of water should be given which aided in eliminating bile and which increased the fluids of the body.

Fifth, operative technique in obstructive jaundice cases should be the gentlest. Tissues should be handled carefully, cautiously, and as Mr. Moynihan said, "almost with a caress." Rough handling, steel retractors, and rough technique, caused these patients to ooze to death.

DR. GESSNER asked to what time Dr. Stone reduced the coagulation period? While he spoke in a general way of giving calcium salts intravenously, he did not understand whether he gave them in this case and if he did give them at all, how often.

DR. STONE said that 10 per cent calcium chloride was usually used. As for the coagulation period, the consensus of opinion was that anything less than six minutes was not con-

sidered operable. The reason he did not give this patient calcium was because she was so tender in the region of the gall bladder and had all the symptoms of an abscess and he intended to drain the abscess. The diagnosis was wrong so he did the hepatic drainage simply to relieve her condition. The idea of introducing drainage into the common duct was first introduced by Dr. Matas.

EXTENSIVE COMMINUTED FRACTURE OF THE SHAFT OF THE HUMERUS

DR. STONE reported the case of a patient who slipped and fell down a stairway, falling on his left arm. He suffered great pain immediately and was unable to move it. He was brought to the hospital shortly after the accident for treatment.

An oblique incision was made into the deltoid muscle to the bone of the elbow joint. The muscle was separated down to the bone. Interposed muscle was removed from the bone fragments; the fixation forceps were then introduced and the oblique fracture placed in position. A two-inch screw was then introduced through both fragments obliquely from above downward. As the screw entered the lower fragment it pulled it upward and into close apposition. The wound was washed out with ether. The muscles were sutured with chromic No. 1, fascia with chromic No. 2. The skin was closed with three silkworms and plain No. 00. Anterior and posterior plaster splints were applied with forearm in right angle flexion. Post-operative recovery was uneventful, the wound healed by primary intention. The arm was dressed frequently and given massage and contrast baths. Splints were removed on December 12 (one month post-operative). The patient was discharged from the hospital with satisfactory motion.

X-ray picture taken post-operative showed the left humerus with the screw in position in good alignment.

FRACTURED HEAD OF RADIUS.

DR. STONE also presented a case of fractured radius with incomplete flexion and extension. This resulted from an accident several weeks before the patient arrived at Touro. X-ray showed the head of the radius broken off and acting as a foreign body in the joint and limiting all the motions in the forearm. The only relief that could be given was by resecting the head of

the radius. This afforded a perfect result. The patient could extend, flex, pronate and supinate his forearm. The only weakness he had was when attempting pushing movements.

The technique in this procedure to be successful was like that of all other joint and bone operations—nothing should touch the field of operation except sterile instruments, and the wound should be closed without drainage. If this precaution was carried out, infection should be a negative quantity.

TWILIGHT SLEEP.

DR. J. W. NEWMAN presented cases delivered in "Twilight Sleep." His purpose in presenting these cases was two-fold. It was difficult to realize that despite the progress that had been made in all departments of medicine that so little advance, so little attention had been paid to the relief of suffering women during childbirth.

Some twenty years ago, the first experiments on a large scale were made with Twilight Sleep. After using it on a few thousand cases it was decided that the method was not safe to the mother or the child and it was abandoned. A decade ago, this method of anesthesia first started at Frieberg, was taken up again under different conditions and today the same method that was in vogue ten years ago is still being utilized. It was difficult to realize that a method that was sanctioned, approved and utilized by so many as safe and sane should have so many different methods of application, that there should be such a diversity of opinion regarding technique by those who favor its use as an anesthetic.

Chloroform had been abandoned for years on account of its effect on the liver. Ether unfortunately could not be used during the entire duration of labor, no matter how safe we considered it. Nitrous oxide was used throughout the world as a safe anesthetic with practically no contra-indications. At the Frieberg Clinic every patient, irrespective of her physical condition was given an injection of scopolamine and one of the derivatives of opium, but not morphia. These injections of scopolamine were repeated according to the needs of the patient until profound anesthesia resulted. Tweedy of the Rotunda recommended that only three doses of scopolamine be given, and not by hypo, but by mouth. Van Hoosen of Chicago gave fixed doses at stated intervals. Again Tweedy said, give one

dose in every case. Van Hoosen gave it in every case and as much and as often as needed in fixed doses at fixed intervals. Regarding the time of its application, this diversity of opinion also prevailed. Freiburg said, "begin with the injection before two fingers dilatation of the cervix exists." Tweedy insisted that the cervix should be thinned out to the extent of three fingers before injections were begun. Van Hoosen claimed that best results were accomplished if injections were given with the first pain. With such a diversity of recommendations and of results accomplished, he deemed it advisable to experiment with the various methods and, to continue using the one from which the best results could be obtained. As far as anesthesia was concerned, his results were most unsatisfactory, but there was no doubt that as far as analgesia and amnesia were concerned, the results were surprisingly beneficial.

The method he employed at present was as follows: 1/150 gr. of scopolamine (Roche) together with a 1/8 gr. of morphia was given hypodermically as soon as the patient was admitted to the hospital. The scopolamine was repeated every half hour for three doses. After that every hour and a half until labor was terminated. There was no doubt in his mind that the use of the drug must be started before the patient had gained the impression that she was going to suffer throughout the course of labor and that it was necessary to select the cases inasmuch as the patient must have sufficient intelligence to grasp the meaning of what we intend doing so that she can co-operate.

Dr. Newman concluded that analgesia and amnesia could be easily accomplished through the hypodermic injection of three doses of scopolamine at intervals of thirty minutes. There was no doubt that a patient was thereby saved a great deal of suffering. Anesthesia, however, was very difficult to obtain and could only be accomplished after many injections. Every patient irrespective of the condition of the cervix should receive at least one injection of scopolamine and morphine. No harm could come to either mother or child. It did not seem just that the class of patients who were mostly in need of such an anesthetic were the ones who did not as a rule derive the results desired.

He referred to the class of high strung nervous women, especially foreigners. He attributed a great deal of the poor re-

sults in the past to the fact that too much progress had been made before the first hypodermic had been given. As far as contra-indications were concerned, there were practically none on the part of the mother, but as to the fetus, they unquestionably existed. He saw at the Freiburg Clinic within forty-eight hours five cases where the drug had to be discontinued on account of the effect on the fetus as evidenced by the great changes in the fetal heart beat. The elimination of morphia after the first hypodermic had the effect of eliminating the so-called Blue Babies and today he seldom had to discontinue the use of the drug on account of the effect on the fetus. One of the principal arguments to be used against this method of anesthesia was the close supervision required both for the mother and the fetus. An examination of the fetal heart sounds every fifteen minutes throughout the entire course of labor was absolutely essential.

He hoped that his remarks would tend to overcome the prejudice that had existed many years against the employment of Twilight Sleep, and that though not thoroughly convinced of the safety and sanity of its use, that it be given a fair trial, if not for the purpose of utilizing it in the future, then at least for the collection of reliable data for its condemnation.

DR. LANDRY stated that he had never used morphine-scopolamine in obstetrics but had used it considerably in surgery. He took exception to a statement of Dr. Newman, "that there was absolutely no danger in the drug and that every one should have one dose of morphine-scopolamine." A few years ago, he had a simple cystic goitre scheduled for operation but unfortunately dislocated his elbow the afternoon before the operation. He asked Dr. Maes to take the case for him. The operation was done under local anesthesia and the patient was given a dose of morphine $\frac{1}{4}$ and scopolamine $\frac{1}{150}$; she went to sleep on the table during the operation and continued to sleep all that afternoon and the greater part of the night. The patient made a very good recovery, but was the cause of considerable anxiety to the surgeon and staff.

NEWS AND COMMENT.

LOUISIANA STATE MEDICAL SOCIETY—POSTPONEMENT OF ANNUAL MEETING. THE EXECUTIVE COMMITTEE OF THE LOUISIANA STATE MEDICAL SOCIETY HAVE FOUND IT NECESSARY TO POSTPONE THE ANNUAL MEETING OF THE LOUISIANA STATE MEDICAL SOCIETY TO APRIL 24, 25 AND 26. THE HOUSE OF DELEGATES IS TO CONVENE ON APRIL 23.

BULLETIN OF THE LOUISIANA STATE MEDICAL SOCIETY. We wish especially to call your attention to the action of the Executive Committee in postponing the meeting dates of the Louisiana State Medical Society to April 24, 25 and 26, 1923. This was deemed advisable on account of the Confederate Veterans' Reunion, which will take place in New Orleans the week of April 9th. We have tried in every way possible to reach all members of the State Society and those interested in the Scientific Program with this information.

The House of Delegates will convene on Monday morning, April 23rd, 1923, at 10 o'clock, in the Hutchinson Memorial Building, 1551 Canal Street. All delegates are requested to arrive at the above locality previous to the opening time in order that they may register.

Our president, Dr. Paul J. Gelpi, has asked to have it announced that all meetings of the House of Delegates, also the meetings of the Scientific Session of the Convention will be called to order on time as specified in the program. Your co-operation in this regard is earnestly requested so that the Sessions of the House and the Scientific Session may not be delayed and will be completed as planned.

As you will observe, we have a very large program and it will be only by strict punctuality and adherence to time limits of papers and discussions that we will be able to complete same.

The meeting of the Railway Surgeons of Louisiana has been called for Monday night, April 23rd, at 8 p. m., in the Hutchinson Memorial Building, 1551 Canal Street. All Railway Surgeons of Louisiana are earnestly requested to attend this meeting as a very unusual program for their entertainment has been arranged as follows:

“Injuries of the Hand,” by Dr. H. W. Kostmayer, New Orleans, La.

“Mobilization of Joint in Treatment of Fractures of the Lower Extremities,” by Dr. E. D. Martin, Dr. A. C. King and Dr. A. J. Babin, all of New Orleans, La.

PLAN OF ENTERTAINMENT.

MONDAY, APRIL 23, 1923.

Luncheon, 12:30 p. m.

Tendered by St. Luke's Private Sanitarium, Dr. B. F. Gallant, Medical Director. (Opposite Texas & Pacific Passenger Depot, 1231 Annunciation St.)

TUESDAY, APRIL 24, 1923.

Luncheon, 12:30 p. m.

Tendered by Loyola Post-Graduate School of Medicine. (Corner Villere and Tulane Avenue, opposite Charity Hospital.)

A Stag Bamboula at 7 p. m.

Theatre party for the Lady Members and Guests at 8 p. m.

WEDNESDAY, APRIL 25, 1923.

Luncheon, 12:30 p. m.

Tendered by the Eye, Ear, Nose & Throat Hospital (Corner Tulane Avenue and Elks Place).

Luncheon for the Lady Members and Guests at 1 p. m. (at the Patio Royal, 417 Royal St.).

THURSDAY, APRIL 26, 1923.

Luncheon, 12:30 p. m.

Tendered by the Tulane College of Medicine (at the Hutchinson Memorial, 1551 Canal Street).

Boat ride from 2 to 5 p. m. for the visiting and resident lady guests and the lady members of the committee.

HOTELS.

Reservation can be made in advance by writing the following hotels: Grunewald, Mr. Geo. Weber, manager; St. Charles, Mr. P. O'Shaughnessy, assistant manager; DeSoto Hotel, Mr. Vic Lebeau, manager; Monteleone, Mr. F. Kenney, manager; Planters, Mr. H. A. Michel, manager; Lafayette, Mr. Lyle Aschaffenburg, manager.

Rooms are available in the Stag Headquarters of the New Orleans Chess, Checkers and Whist Club.

Anyone desiring reservations should communicate with the secretary-treasurer of the Louisiana State Medical Society, Dr. P. T. Talbot, 1551 Canal street.

HEADQUARTERS.

Tulane Medical School, 1551 Canal street, Hutchinson Memorial.

(Walking distance from any of the hotels.)

REGISTRATION.

Enter the basement of the building and register before going to the Meeting Hall, getting at the same time invitations to the functions arranged for your entertainment.

Ladies accompanying members will be required to register and wear the official badge of the meeting, in order to participate in entertainment arranged for them by the committee.

MAIL.

All mail addressed in care of the Convention will be taken care of at the registration office and a daily notice of letters received will be posted.

INFORMATION.

Any matter that you are not posted on can be explained at the registration office.

CLUBS.

The following clubs have extended the courtesies of their home to all members of the association, wearing the official badge and no admit card will be necessary:

The Elks' Club, Elk Place, near Canal.

Chess, Checkers and Whist Club, Bourbon, near Canal. (The old Cosmopolitan Hotel.)

Young Men's Gymnastic Club, No. 224 N. Rampart street. (One block and a half from Canal.)

Dr. Amedee Granger, Chairman, Arrangement Committee.

New Orleans, La.

Dr. T. A. Maxwell, Chairman, Finance Committee.

New Orleans, La.

Dr. M. J. Lyons, Chairman, Booths Committee.
New Orleans, La.

Dr. O. C. Cassegrain, Chairman, Signs and Decorations Com.
New Orleans, La.

Dr. Lucien A. LeDoux, Chairman, Advertisement Committee.
New Orleans, La.

Dr. Maud Loeber, Chairman, Ladies' Entertainment Committee
New Orleans, La.

Dr. A. E. Fossier, Chairman, Entertainment Committee.
New Orleans, La.

Dr. L. H. Landry, Chairman, Badges Committee.
New Orleans, La.

Dr. W. A. Reed, Chairman, Scientific Exhibit Committee.
New Orleans, La.

Dr. M. W. Swords, Chairman, Publicity Committee.
New Orleans, La.

THE NEW ORLEANS CONFERENCE OF SOCIAL WORKERS have been able to secure Miss Antoinette Cannon of international repute to deliver a course of lectures on medical social service early in April for two weeks. The course will be an afternoon and evening one. Miss Cannon comes to us well equipped to handle the topic, having been for many years connected with the Social Service Department of the Mass General Hospital, Boston, and is now superintendent of field work and hospital special work in New York. All those interested are invited to communicate with Miss Mary Railey, Child Welfare Bureau, for further data and information.

THE LOUISIANA STATE CONFERENCE ON SOCIAL BETTERMENT meets in New Orleans on April 8, 9 and 10, under the auspices of the New Orleans Conference of Social Workers.

Among the many topics to be discussed will be: Mental defectives, delinquents, medical, family, church and women's clubs, social work, as well as child welfare, mental hygiene and community organization. The medical fraternity and their friends are extended an invitation through this medium to attend these lectures. The meetings will be held at the Athenaeum, excepting a community meeting which will be held on the campus of Tulane University, on Sunday, April 8, at 4 p. m., when speakers

will address the conference and their friends. Among the many visitors will be Owen Lovejoy of New York City, late president of the National Conference of Social Workers. Those in charge of the conference are:

Dr. Maud Loeber, president; Mrs. Margaret D. Dickson and Miss Willes Sullivant, secretaries; Drs. John Spelman and J. W. Newman, chairmen; Dr. David Fishman, ways and means; Prof. S. P. Wyekoff, of Tulane, program; Mrs. A. A. Hartman, luncheon and entertaining; Mr. Charles H. Patterson, housing and halls; Dr. Walter J. Otis, publicity and press; Rev. Stephen Carra, speakers.

ANNOUNCEMENT is made by Dr. I. I. Lemann, that in the future his practice will be limited to hospital work and office consultations.

THE MISSISSIPPI VALLEY MEDICAL SOCIETY, composed of the parishes of St. John, St. Charles and St. James, convened in its regular quarterly session at 11 a. m., March 8, at the Reserve Community Club, Reserve. This proved to be the record meeting of the society. This success was manifested in a measure by the very gratifying increase in the attendance of our old members, several of whom had brought with them candidates for membership. But there was also another and more potent reason and its realization was soon to be pleasantly experienced by the arrival of the delegation from New Orleans. This was composed of some of the officers of the Louisiana State Medical Society and their associates, including representatives of special departments of the Louisiana State Board of Health, all of whom had availed themselves of this opportunity to join forces in honoring us with an official visitation, the two bodies co-operating and participating in the scientific session of the day's program.

From the Louisiana State Medical Society: Dr. Paul J. Gelpi, president; Dr. Geo. S. Bel, councillor of our Second District; Dr. Hamilton P. Jones and Dr. P. T. Talbot, secretary-treasurer.

From the Louisiana State Board of Health: Dr. J. Geo. Dempsey, State Registrar, Bureau of Vital Statistics, and Dr. Leonard C. Scott, in charge of the venereal disease department of the Louisiana State Board of Health.

Other visiting guests from New Orleans: Dr. Lucien A. Ledoux, Dr. W. H. Block, Dr. W. M. Johnson and Dr. A. E. Fossier.

Mississippi Valley Medical Society: Dr. L. T. Donaldson, Sr., president; Dr. J. P. Tenney, vice-president; Dr. L. Cheves Tebo, secretary-treasurer; Dr. E. P. Feucht, Dr. Wm. F. Guillothe, Dr. J. S. Parker, Dr. L. A. Gaudin, president St. James Parish Medical Society; Dr. B. A. Colomb and Dr. Lionel O. Waguespack.

Luncheon was served after the scientific proceedings.

DR. LEWIS H. WEBB, surgeon U. S. P. H. S. (R), with the rank of major, and late relief officer of the Veterans' Bureau District No. 6, has been promoted to the grade of district medical officer vice Dr. William C. Gibson, surgeon U. S. P. H. S. (R), with the rank of major. Dr. Gibson will be greatly missed by the entire personnel attached to the bureau, to whom he endeared himself while here. He goes to Washington to enter the same duties to which he was assigned before coming to New Orleans. His connection with the ex-service men's activities ably fits him for the duties which are ahead of him.

FROM U. S. BUREAU OF MINES, Washington, D. C., comes warning that improper combustion of natural gas in heating appliances in common use may liberate carbon monoxide, an insidious and deadly gas, as the result of studies just completed at its Pittsburg, Pa., experiment station. These tests followed announcements in Pittsburg, Baltimore and various other cities of many deaths due to this cause.

THE "GIFT HOUSE," a new dormitory of the Alexander Milne Home School for Girls, devoted to the care, training and happiness of those whose minds have not developed normally, was dedicated Saturday afternoon, February 24th, at 2:30 P. M.

THE SHREVEPORT MEDICAL SOCIETY, Dr. Robt. T. Tucos, secretary, met at the Charity Hospital on February 6th, 1923, Dr. Pirkle, presiding. Twenty-six members were present.

Drs. Sanderson, Ragan, Barrow and Smith were elected delegates to the Louisiana State Medical Society.

Clinical cases were presented and the following papers were presented: "The Gastro-Intestinal Form of La Grippe," by Dr. Picard, and "Lambliæ Infections," by Dr. Knighton.

THE UNITED STATES CIVIL SERVICE COMMISSION announces the following open competitive examinations: Assistant in child hygiene, specialist in child hygiene, specialist in child hygiene (psychiatry). Attention is also called to the opportunities offered to enter Government service at the new United States Veterans' Bureau Hospital for colored veterans shortly to be opened at Tuskegee, Ala. Information concerning the former should be addressed to the United States Civil Service Commission, Washington, D. C., and the latter to the secretary, Fifth U. S. Civil Service District, postoffice, Atlanta, Ga.

U. S. VETERANS' BUREAU INSTRUCTION IN PULMONARY TUBERCULOSIS.—By authority of the director of the U. S. Veterans' Bureau, announcement is made that those who have completed the preliminary course in pulmonary tuberculosis given in twenty Veterans' Bureau hospitals, are eligible to attend the post-graduate course now being, and to be repeated at intervals, at Veterans' Hospital No. 41, New Haven, Conn., and at Fitzsimons General Hospital, Denver Colorado. These latter schools began March 1 and 5, respectively. While the courses at New Haven and Fitzsimons are intended for personnel now in the service of the Bureau, it is hoped that later courses will be open to those who wish to take up this specialty and enter the service of the Bureau.

UNITED STATES PUBLIC HEALTH SERVICE states that vaccination is 2,000 years old. "Vaccination is an outgrowth of man's effort to protect himself from pestilence by using nature's methods of defense," says Dr. G. W. McCoy, director of the hygienic laboratory of the United States Public Health Service. "Primitive man noticed that recovery from a first attack by most diseases gave immunity against other attacks; and some 2,000 years ago he began to inoculate his fellows with smallpox when conditions seemed propitious instead of waiting for nature to do it at some time when conditions might be very unpropitious.

"Inoculations against smallpox were made in India and in China as early as 300 B. C. Later, when the disease reached

Europe, inoculation went with it, supplemented by a new method called 'selling smallpox'—exposing a well person to contact with one ill with the disease so that if he survived he would be proof against it.

"Inoculation differs somewhat from vaccination as devised by Jenner, but the principal is the same. Moreover, long before Jenner's day it was known that an attack of cowpox gave immunity from smallpox; and records show that men who had recovered from cowpox had themselves inoculated with smallpox to make the proof conclusive. Jenner, however, as he himself says, 'placed vaccination on a rock' where he knew it would be immovable."

CARBON TETRACHLORID IN THE TREATMENT OF HOOKWORM DISEASE. "About 50,000 persons have been treated with carbon tetrachlorid by S. M. Lambert, Siwa, Fiji (*Journal A. M. A.*, Feb. 24, 1923), and his associates in Fiji. Three deaths from poisoning occurred among the last 8,000 cases. The poisoning was caused by some impurity of unknown nature in the drug. The experience with the heavy *Ascaris* infection in Navua caused Lambert to modify the treatment for young children by adding to the carbon tetrachlorid a vermifuge more effective for *Ascaris*. Oil of chenopodium is considered such a drug. It was added in the proportion of one part of chenopodium to eleven parts of carbon tetrachlorid. The dose of the mixture remained at 3 minims (0.2 c.c.) for each year of age. This meant $2\frac{3}{4}$ minims of tetrachlorid and $\frac{1}{4}$ minim of chenopodium for each year. Several hundred persons, many of whom have had fairly severe *Ascaris* infections, have been treated. The worms have all been removed dead. The mixture is not disagreeable to take, and children have not objected to it. The oil is held in a perfect solution in the tetrachlorid."

ACTION OF STRONGER SOLUTIONS OF MERCUROCHROME IN EARLY GONORRHEAL INFECTIONS. "Ernest Rupel, Indianapolis (*Journal A. M. A.*, Feb. 24, 1923), has used a 5 per cent mercurochrome-220 soluble solution with good results. A disappearance of purulent discharge was effected by the third day in 75 per cent of these cases. In ten, or 21.7 per cent, of the cases, posterior symptoms developed, the severity of which did not differ from the usual incidences of such.

Approximately 70 per cent of the patients reached an apparent cure in one week, and in ten days 75 per cent were cured. Freedom from symptoms, both objective and subjective, constituted a "cure." Fully one-half of the patients have been dismissed more than a year. There have been no recurrences."

SIXTH DISTRICT. The second annual spring meeting of the Sixth District Medical Society was held in Jackson, March 14th. Meeting at the East Louisiana State Hospital as guests of Dr. E. E. Evans and Mr. W. A. West, who spared no efforts in making the members of the society most welcome, extending every courtesy and turned the freedom of the institution over to them.

The meeting was called to order by the president, Dr. J. W. Lea of Jackson. There were 49 members present, a very good attendance considering the prevalence of so much sickness at this particular time. After the invocation by Rev. B. D. Watson of Jackson, Dr. Evans introduced the honorary member of the society, Mr. West, who welcomed the members of the society and turned over the keys of the institution, stating at the same time that the pass-word to any department of the hospital was, Open The Door, to be answered by the attendant with "Welcome."

The following officers were elected for the ensuing year: Drs. C. A. Weiss of Baton Rouge, president, and R. P. Jones, also of Baton Rouge, secretary. The next meeting place to be selected at a future date. Moving pictures showing two intra-abdominal operations, an operation for repair of complete perineal laceration, the treatment of wounds with Dakin's solution were shown and proved very interesting to the members. Next followed the reading and discussion of scientific papers as follows: Studies of Two Micro-Organisms, Resident in Dental Socket, R. R. Bailey, D.D.S., Jackson resident dentist. Has the X-Ray a Definite Place in a Hospital for Mental and Nervous Diseases, Lester J. Williams, M.D., consulting roentgenologist, Baton Rouge. Medical Ethics, Dr. Tom Spee Jones, consulting surgeon, Baton Rouge.

A psychiatric clinic by the resident assistant physicians of the institution, in which the members of the society were shown types of various forms of insanity, proved very enlightening

to the members present. Cases of senile dementia were shown, diagnosis and prognosis given by Dr. L. H. Scott. Cases of general paralysis of the insane by H. K. Wright, M.D., resident assistant physician, Jackson. Dementia praecox by C. S. Miller, M.D., resident assistant physician, Jackson. Maniac depressive psychosis, J. H. Parker, M.D., resident assistant physician, Jackson.

After the scientific portion of the program, the society was tendered a banquet by Dr. E. E. Evans and Mr. West, and a most sumptuous and delicious repast was served in one of the dining rooms of the institution.

Following the banquet, another moving picture entitled Oral Hygiene and Care of the Teeth, was shown, to which all the school children of Jackson were invited.

The meeting proved a success from every angle, scientific, educational and social, in a large measure due to the untiring efforts of Drs. Lea, Evans and Mr. West. While the Sixth District Society is yet in its infancy it shows strong evidence of growing into a powerful factor for the dissemination of medical knowledge and medical unity throughout our district.

PROVISIONAL MORTALITY FIGURES, 1922. The Department of Commerce, Washington, D. C., announces that provisional figures compiled by the Bureau of the Census for the first nine months of 1922 indicate slightly higher death rates than for the corresponding nine months of 1921. For the states compared the death rate for the nine months was 11.7 in 1922 against 11.6 for the first nine months of 1921. The highest mortality rate for the nine months is shown for Maine (14.3) and the lowest for Idaho (7.8).

AT THE CHARITY HOSPITAL, NEW ORLEANS. The Charity Hospital is filled to capacity. In fact, the hospital is overcrowded and the facilities are not adequate for the present needs, nor will they meet the ever-increasing needs of the future, as statistics show that the number of patients is increasing daily.

There is imperative need for more wards. In addition to the above the nurses' home is not large enough and it is necessary that an addition be built. The interns' quarters are really nothing more than temporary and cannot accommodate the

number of interns in service in the hospital, it being necessary to house some of them on the outside.

Having exhausted every other means of procuring funds, and these improvements being absolutely necessary, the board of administrators intends putting on a drive. It is contemplated to ask every person in the state for one dollar, and as the population is 1,800,000 this would bring the total to that amount. Because many will be unable to contribute their dollar and to make up this deficiency, it will be asked that others give as much money as they can. The drive will begin March 15th and end May 12th, Hospital Day.

PROVISIONAL BIRTH FIGURES, 1922. The Department of Commerce, Washington, D. C., announces that provisional birth figures compiled by the Bureau of the Census for the first nine months of 1922 indicate lower birth rates than for the corresponding nine months of 1921. For the states compared the birth rate for the first nine months was 22.8 in 1922 against 25 in 1921. The highest birth rate for the nine months is shown for North Carolina (30), and the lowest for Washington (18.3).

AT TULANE UNIVERSITY: Dr. C. C. Bass, the dean of the Medical School of Tulane University, attended the meeting of the Association of American Medical Colleges at Ann Arbor, Michigan, on March 2nd and 3rd. He also attended meeting of the Congress on Medical Education, Licensure, Public Health and Hospitals of the American Medical Association, held in Chicago, March 5, 6 and 7.

COMMUNICABLE DISEASES AND TRAVEL. Uniform provisions governing the travel of persons suffering from contagious diseases are now in force over a large part of the United States, says the U. S. Public Health Service, in a bulletin just issued.

The code looks to either the prevention of travel by infected persons or to the taking of measures to render such travel harmless; to the adoption of such general provisions as may render unlikely the transfer of infection to travelers by towels, drinking cups, and other objects of general use; and to the control of food and water on trains so as to protect them from contamination by the secretions of infected persons. Prevention of all travel by infected persons is so difficult as to be impracticable.

ANNUAL MEETING OF THE EYESIGHT CONSERVATION COUNCIL. The annual meeting and election of the Eyesight Conservation Council of America was held in New York on Tuesday, February 6th, 1923, at the Pennsylvania Hotel. President Wallace reviewed the activities of the council during the past year. He referred to the increased interest and the gratifying response to the work, and of the encouraging outlook for 1923.

THE NEW YORK ACADEMY OF MEDICINE is seeking funds to purchase the site for a new building.

THE NATIONAL BOARD OF MEDICAL EXAMINERS announces examinations as follows: Part 1, June 25, 26, 27, 1923; Part 2, June 28, 29, 1923; Part 1, September 24, 25, 26, 1923; Part 2, September 27, 28, 1923. Applications must be made before May 15. Further information may be obtained from the Secretary, Dr. J. S. Rodman, 1310 Medical Arts Building, Philadelphia, Pa.

EIGHTH CONGRESSIONAL DISTRICT. Dr. C. M. Harris recently moved from Poland to Cheneyville.

Dr. Frank Luckett moved from Cheneyville to Alexandria last month.

Dr. M. H. Foster and family, of Alexandria, motored to Opelousas March 17th to spend the week-end with Dr. Paul Foster.

At the last meeting of the Rapides Parish Medical Society our representatives to the State Meeting were directed to take up the matter of suitable representation in the State Legislature. For the protection of the public, and for the advancement of medical science generally, it is absolutely necessary that some of our State legislators be selected from the medical profession, or at least from lay candidates favorably committed to matters protecting the general health, and scientific advancement. To this end, all members of the house of delegates are urged to co-operate, both in the house deliberations, and on returning to their home districts.

This office is very anxious to receive any communication from the parishes of the Eighth District, and to get any item of medical news of interest. The winter is now past, the big state meeting will soon be over, and we look forward to the great

wide open season of the year with genuine delight for the promise of recreation and relaxation which it is about to afford us. While the doctor is a scientist, and devoted first, last and all of the time to the serious purpose of easing pain, and prolonging life, and making as pleasant as possible the very hardest places of human experience, he is yet mortal, human and alive. He cannot continually ignore the affairs of less pith and moment without a definite loss of physical tone, mental poise and those essential elements which enter into the construction of a well balanced personality.

It is the sincere desire of the collaborator to cover the entire district, get acquainted with every doctor in it, and to make regular reports that will be interesting to all. It is therefore announced and promised that if any Parish society in the district will invite him to a medical meeting, or a fishing trip (either one but preferably both), picnic, barbecue, or any other excuse that will serve as an actual basis for meeting with the local physicians the invitation will be accepted, and personal business suspended ad interim.

Meet you in New Orleans April 24, 25, 26. M. H. Foster, M. D., Collaborating Editor, 8th Cong. District.

THE LOUISIANA STATE MEDICAL SOCIETY

Will Meet in

NEW ORLEANS ON APRIL 24, 25 AND 26

BOOK REVIEWS AND NOTICES.

All new publications sent to the JOURNAL will be appreciated and will invariably be promptly acknowledged under the heading of "Publications Received." While it will be the aim of the JOURNAL to review as many of the works accepted as possible, the editors will be guided by the space available and the merit of respective publications. The acceptance of a book implies no obligation to review.

Place of Version in Obstetrics, by Irving W. Potter, M.D. C. V. Mosby Co., 1922. St. Louis.

Dr. Potter's method of performing version has appeared in many medical journals, but now makes its first appearance in book form. Of convenient size and unusually well illustrated, it conveys very readily to the reader the technique which he uses in performing this operation. Approximately half of this book is devoted to a review of the literature regarding the development of obstetrics, and particularly the origin and development of version to the present day. Each step in the performance of this operation is described and illustrated. His conclusions are a resume of the results he has obtained since routinely resorting to this method of delivery. This book will prove a valuable addition to our obstetrical literature, and should be read and studied by those who are interested in this branch of medicine.

L. A. L.

Handbook of Organization and Method in Hospital Social Service, by Margaret S. Brogden. Norman Remington Co., 1922. Baltimore, Md.

As though to focus the reader's attention upon the need of medical social service, on the opening page the author quotes a Meissonier-like epic picture which visualizes the mental attitude of a discharged patient—the home to which he must return, its hardships, its inadequate provisions, its noisy neighbors and other problems—conditions too frequently confronted by the patient and social worker. Miss Brogden's extended hospital experience and her splendid work as supervisor of the social service department of Johns Hopkins Hospital qualifies her for the compiling of the information contained in this compact little volume. The organization of the social service department of the Johns Hopkins Hospital is outlined, giving its functions in aiding in medical treatment and the prevention of disease through investigating and reporting to the physicians, and adjustment of problems, both medical and environmental that hinder and retard the process of recovery. She reprints the report of the committee on the functions of hospital social service as presented by the American Association of Hospital Social Workers. These functions are elaborated upon under the headings of case work, research and education. In a corollary she cites what must sometimes be done as temporary functions in order to organize the work but stresses the primary function of the hospital social work in case work. The best contribution of such work both to the hospital and the community is the performance of these functions. Her outline of case analysis and the details concerning the records and the general technique of the department offers information with a conciseness which makes the book both valuable and suggestive to executives, experienced workers, students or anyone interested in medical social service.

L. B.

Ophthalmoscopy, Retinoscopy and Refraction, by W. A. Fisher, M.D., F.A.C.S. Pub. by W. A. Fisher, Chir., 1922.

A rather clear and simple description of ophthalmoscopy, retinoscopy and fitting of glasses, intended for the use of medical practitioners and students. The author believes that the fitting of glasses belongs to the general practitioner. Ophthalmoscopy is to be acquired on the author's schematic eye for which good colored drawings are supplied in the text and in the appendix. For the different fundus conditions diagrams illustrate in cross sections the gross macroscopic appearance; unfortunately, the diagrammatic sections do not always correspond, in direction, to the direction of the fundus changes. Ophthalmoscopy is to be attempted on the patient only after mastery of it on the schematic eye. The rules of measuring the refraction are always emphasized. Field examination, systematic examination of the eye and glaucoma have special chapters. Slight theoretical discussion is introduced only in discussing lenses and refraction proper. Minute descriptions of subjective methods of prescribing glasses and of retinoscopy are given, and the value of proper fitting of the frames is not forgotten. M. F.

A Treatise on Cataract, by Donald T. Atkinson, M.D. Vail-Ballou Co., New York, 1921.

The book aims to give a resume on the subject of cataract, of the methods of operation and the after treatment. The very laudable view is expressed that the general practitioner should be able to diagnose iritis, glaucoma and cataract. From the author's description one would expect the myopia of beginning cataract, the "second sight," to be very frequent. The necessity of examining the eyeground while the lens is still clear is correctly emphasized as a later aid to prognosis. M. F.

Radiant Energy and the Ophthalmic Lens, by Frederick Booth. P. Blakiston's Son & Co., Philadelphia, 1921.

A collection of data on radiant energy—optic, thermic, electric, acoustic—form the introduction for the main purpose of the book: to teach the proper fitting of glasses by the various methods for the relief of the discomforts caused by eyestrain. Included in the book are methods of field examination and its close is made up of a chapter containing a number of mathematical rules and data, of value in applied and practical optics. The author spells Hom-atropin. M. F.

Diseases of the Ear, Nose and Throat, by Wendell Christopher Phillips, M.D. F. A. Davis Co., Philadelphia, 1922.

A sixth edition of this Americanized text-book testifies to the generous support accorded it. New matter has been introduced on such topics as allergy, diphtheria, pollen therapy. The Schick test, the administration of toxin-antitoxin, are given ample space. Dr. Clyde Lynch has collaborated in presenting the subject of suspension laryngoscopy. Chevalier Jackson, the master-bronchoscopist, assisted in the revision of peroral endoscopy. As this volume represents American ideals in oto-laryngology why is no mention made of the Beck in the removal of tonsils? With its many variations this method is being applied with marked success by many laryngologists. It deserves ample consideration in a text-book of such supreme excellence and one so avowedly Americanized. H. D.

Cancer and Its Non-Surgical Treatment, by L. Duncan Bulkley, A.M., M.D. New York, Wm. Wood & Co., 1921.

This is a complete review of the subject of cancer from a medical standpoint, and of its non-surgical treatment. The basis of the author's contention is principally founded on the unproven theory

that cancer is a systemic condition produced by errors of metabolism and cell life. He presents statistics and therapeutic results to sustain his contentions. The book, therefore, offers a nice study for one who will not become negligent in our basic and accepted knowledge of cancer.
P. T. T.

Urinary Analysis and Diagnosis, by Louis Heitzmann, M.D., 4th Edition, revised and enlarged. New York, William Wood & Co., 1921.

No more flattering tribute can be paid this valuable work by Dr. Heitzmann than to state that it has just appeared in its fourth edition. Both the microscopical as well as the chemical side of examination of the urine has been ably dealt with. Entire chapters are devoted to organic constituents, inorganic, proteins, carbohydrates, acids and salts, blood and pus, epithelia, mucus and connective tissue, casts, micro-organisms, animal parasites, etc. The author goes minutely into the study of the urine as relates to inflammations of the kidney, the bladder, diseases of the sex organs; and tests of functional efficiency of the kidneys are extensively dealt with. No doubt the profession generally will welcome this new volume of an already popular treatise. It should be placed among the books that are of unquestionable value to the laboratory worker and the clinician.

H. W. E. W.

PUBLICATIONS RECEIVED.

J. B. Lippincott Company, Philadelphia and London: Essentials of Surgery, by Archibald L. McDonald, M.D. Physics and Chemistry for Nurses, by A. R. Bliss, Jr., Ph.G., Ph.Ch., A.M., Phm.D., M.D., and A. A. Olive, A.B., A.M., Ph.Ch., Phm.D. How We Resist Disease, by Jean Broadhurst, Ph.D.

C. V Mosby Company, St. Louis: Clinical Laboratory Methods, by Russell Landram Haden, M.A., M.D. Impotency, Sterility and Artificial Impregnation, by Frank P. Davis, M.D.

P. Blakiston's Son & Company, Philadelphia: Anatomy and Physiology, by Elizabeth R. Bundy, M.D.

Paul B. Hoeber, New York: Multiple Sclerosis (Disseminated Sclerosis), Vol. 2, 1921, Association for Research in Nervous and Mental Diseases.

Washington Government Printing Office, Washington, D. C.: United States Naval Bulletin, Vol. 7, No. 6, December, 1922; Vol. 8, Nos. 1 and 2, January and February, 1923. Public Health Bulletin, Nos. 127, 128 and 129. Public Health Reports, Vol. 38, Nos. 5, 6, 7, 8, 9.

Miscellaneous: Optical Methods, Vol. 1, Adam Higler; Thirty-first and Thirty-second Annual Reports of the Eye, Ear, Nose and Throat Hospital, 1920 and 1921.

REPRINTS.

Arte y Ciencia (Segunda Edición), by Dr. Luis C. Maglioni; Public Health Reports, No. 719.

STATISTICAL DATA FOR THE MONTH OF FEBRUARY, OBTAINED FROM THE RECORDS OF CITY BOARD OF HEALTH.

BIRTHS.		
February, 1923—	White	Colored
Male	285	101
Female	265	124
Totals	550	225
By Physicians		405
By Midwives		370
Grand Total		775
Stillbirths		35

DEATHS.				
1921		1922		
White	Colored	White	Colored	
Male	184	124	Male	204
Female	150	114	Female	176
Totals	334	238	Totals	380
Under 1 year	69		Under 1 year	98

February, 1923—				
Cases		Deaths		
White	Colored	White	Colored	
Diphtheria		1	0	
Typhoid		2	0	
Malaria		3	0	
Scarlet Fever		0	0	
Whooping Cough		4	0	
Influenza		43	15	
Measles		0	0	
Cs. Meningitis		1	0	
Tuberculosis		39	27	

DEATHS.		
February, 1923—	White	Colored
Cancer	33	7
Apoplexy	31	11
Endocarditis and Myocarditis	3	4
Angina Pectoris	8	2
Other Circulatory Diseases	79	44
Broncho-pneumonia	18	23
Lobar Pneumonia	20	24
Other Respiratory Diseases	7	1
Diarrhoea and Enteritis	1	7
Appendicitis	3	3
Other Digestive Diseases	9	5
Acute Nephritis	7	8
Chronic Nephritis	21	7
All Other Genito-Urinary Diseases	8	2
Puerperal State	8	5
Malformations	2	3
External Causes	26	23

DEATH RATE PER 1,000 PER ANNUM FOR THE MONTH.

February, 1923—		
	Non-residents	
	Excluded:	
Colored	27.17	24.00
White	17.59	15.66
Total	20.18	17.91

Deaths from premature births, violence, etc., are not excluded.

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ORIGINAL ARTICLES.

(No paper published or to be published in any other medical journal will be accepted for this department. All papers must be in the hands of the Editors on the tenth day of the month preceding that in which they are expected to appear. Reprints may be had at reasonable rates if a WRITTEN order for the same accompany the paper.)

RESECTION OF THE RECTUM WITH RESTORATION OF THE ANAL OUTLET.*

By CARROLL W. ALLEN, M.D.

My object in presenting this subject today is to call attention to certain steps and technical procedures which in my experience has greatly simplified this otherwise difficult operation and improved the functional results by restoring the bowel to its normal anal outlet.

The great nightmare with most patients in agreeing to a removal of the rectum has been the horror of life with an artificial anus, somewhere higher up along the colon, over which they can exert but little control.

The condition for which the operation is usually done is cancer of the rectum, but it may occasionally be necessary in other conditions.

The operation is undertaken in all cases in which a radical removal is possible. In those cases in which it cannot be done,

*Read Before the Orleans Parish Medical Society, February 26th, 1923.

where the growth has broken through the bowel wall and involved the surrounding parts, an artificial anus is all that is attempted and adds to their comfort and prolongs life.

During the last ten years there have been two cases suited to this operation in which the final steps were never completed, in one case due to the poor physical condition of the patient, in the other due largely to fear.

The procedure is ordinarily divided into stages which simplifies the technic and adds greatly to the safety but prolongs considerably the stay in the hospital and added expense, which unfortunately has to be considered by many, and often forces them to select a one-stage operation, if feasible, even at a greater risk.

The one-stage operation may in favorable cases be the operation of choice by the surgeon but these are the exception. In one case reported in this series in which a one-stage operation was done it resulted fatally. The stages are: 1. A temporary artificial colostomy. 2. Removal of the rectum and bringing down the bowel from above with implantation at anal outlet. 3. Closure of colostomy.

In cases in which the bowel is not badly obstructed and can be fairly well cleansed both by purgatives and enema, and in which no more than eight or ten inches of the bowel has to be resected and the patient in fairly good condition, a one-stage operation is the method of choice. In patients where some obstruction exists and whose physical condition is materially impaired the operation should always be done in stages.

ANATOMICAL CONDITIONS: In the majority of patients the sigmoid will be found to furnish sufficient slack, often fourteen to sixteen inches will be found in this loop, which can be mobilized and easily brought down. Where such is not the case and the sigmoid is short, the descending colon must be mobilized from the splenic flexure down.

Fortunately the circulation of the bowel usually lends itself quite readily to this procedure, though at times it may be so arranged as to make any extensive mobilization of the bowel quite hazardous. As this is a matter of vital importance it should always be thoroughly investigated before any mobilization is attempted.

The usual arrangement is that the inferior mesenteric gives off the colica sinistra, sigmoid and superior hemorrhoidal arteries but at times all three come off independently from the aorta. As these vessels approach the bowel, they lie on the under surface of the inner leaflet of the mesentery and inosculate freely with each other in oborescent-like arches. The rectum receives its blood supply from the middle and inferior hemorrhoidal. The latter vessels are divided during the operation and it is only important to know where they are so that they can be ligated. The outer leaflet of the mesentery has practically no blood supply, and by dividing it the bowel can by gentle manipulation be lifted up and freely mobilized with practically no hemorrhage.

From the consideration of the above it is readily seen that a competent circulation is one of the first requisites of any extensive mobilization. It is always necessary to divide the inferior hemorrhoidal and often the sigmoid artery and whenever either is done it should be high up on the trunk before any branches are given off so as to derive full benefit from all inosculations or anastomoses and thus carry the circulation through the vascular arches from above downward. Before undertaking any extensive vascular divisions the vascular network should be studied to see that it is competent and how it can be best done. As the venous return follows the arteries no special attention need be paid to it, but there is probably always considerable venous congestion following any extensive ligations.

In some cases it may be necessary to bring down more bowel than would ordinarily be necessary and to make a more extensive resection than the pathology would justify so as to obtain a well vascularized piece of bowel to reach the anal outlet.

The colostomy is done by any of the approved methods and needs no special description.

The bowel, after being brought down out of the cavity, is not opened immediately but several days delay allowed to permit union to take place between the bowel and skin margin and the wound sealed off. After the bowel is opened, the lower segment is well cleansed by frequent irrigations from above,

After allowing sufficient time for the patient to thoroughly recover from the cholostomy operation the second stage is undertaken.

The abdomen is opened in the midline low down, with the patient in the Trendelberg position, the upper part of the cavity is packed off and the liberation of the bowel begun. It is estimated about how much of the bowel will be needed to permit of a resection at least four to six inches above the tumor. The vessels ligated at suitable points and mesentery divided all along close to the posterior abdominal wall. In dissecting down along the rectum it is advisable to take in as much surrounding tissue as possible so as to remove all accessible lymphatics and glands. The hand is inserted down along the hollow of the sacrum almost to the anal canal, from this posterior position the dissection is carried up on each side towards the bladder. This is always easier in the female than in the male, as in the latter the attachment to the bladder in front is always quite firm, while in the female we have the vault of the vagina at this point which is always quite movable and can be resected if needed without inconvenience to the patient. The only anatomical structures deep in the pelvis which should be avoided are the ureters. These descend parallel with the rectum about two inches to the side until they reach a point opposite the bladder when their course is abruptly changed to downward, forward and inward. In the male they can be identified one-quarter inch behind the vas deferens as this structure curves around the base of the bladder. In the female they are well out of the way at this point as they lie to the side and in front of the uterus. Another point of some consequence is that the rectum is in close contact with the prostate and base of the bladder in the male and the fascia which surrounds the rectum and comes down on it from above, fuses with the perivesical fascia on the sides and permits the bowel wall to lie directly against the prostate. This anatomical difference makes an equally extensive involvement in the male less favorable than in the female and often by invading the prostate and base of the bladder reaches an inoperable stage much earlier.

The passage of ureteral catheters just before the operation will facilitate the recognition of these structures and may often be of advantage particularly in male patients

In the male the dissection is carried down well below the prostate and bladder and in the female below the vaginal vault and an equal distance laterally and behind in either case. Having done this and ligated all bleeding points, a pack is placed snugly into the wound around the rectum, the liberated loop of bowel coiled up above it in the pelvis and the abdominal wound closed.

The patient is now placed in the lithotomy position with the hips projecting well over the table. A circumferential incision is carried around the anal margin at the mucocutaneous junction and the mucosa dissected up, bunched together and ligated so as to prevent rectal discharges from soiling the wound.

The sphincters are now divided posteriorly in the commissure and the incision carried backward alongside the coccyx up to the sacrum dividing all tissues between the bowel and sacrum. The sphincters are then dissected free from the bowel all around and pushed off to one side.

By passing the finger up in front of the coccyx the pack placed in the peri-rectal wound in the pelvis is readily recognized and this finger is forced through to reach it, a portion of which is pulled down into the external wound. With the finger up in the pelvis it is now an easy matter to sweep it around the bowel liberating any remaining attachments on the sides and in front. The rectum is then pulled down, bringing with it the tumor and healthy bowel above.

In resecting the bowel it is advisable to divide it at least four or five inches above the growth and two or three inches below. In cases in which the growth is some distance up the bowel above the sphincters, it is not necessary to disturb them, but the incision is made just to the side and carried up to the sacrum and the bowel reached just above the anal canal.

In cases in which the growth is low down near the sphincters, if only the external sphincter can be saved it will be sufficient to secure ultimate bowel control.

In bringing the bowel down it is essential to allow ample slack as it is only in this condition that the circulation can enter it from above and the venous return take place. If the bowel is at all on the stretch the circulation will be obliterated. The sphincters are now loosely attached to the bowel in front

and on each side by several sutures but is not closed around it behind. The bowel is divided about one inch external to the sphincters, allowing this portion to project externally. A cigar drain is passed up into the pelvis behind the bowel and a few silk worm sutures approximate the wound behind.

Where the growth is well above the anal canal and the sphincters have not been disturbed, an end to end anastomosis is done by interrupted sutures and the bowel pushed back into the pelvis.

The post-operative treatment in addition to the usual routine includes moderate Fowler position, the daily irrigation of the lower segment of the bowel after the first week and the gradual withdrawal of the drain.

Third stage.—Ten days to two weeks later the colostomy opening is closed and the bowel dropped back into the cavity with closure of abdominal wound. The sphincter is now more snugly approximated to the bowel wall by dissecting away some of the muscle wall, allowing the mucosa to come in contact with the sphincter, removing any excess, and attaching the margin to the skin and uniting the sphincter behind.

The following histories have been selected to show the variations in the operation:

Mr. T., History 66539, admitted Touro Infirmary April 12, 1918.

He gave a history of having been operated upon about one year previously for stricture of rectum which resulted in a complete closure of rectum requiring an artificial anus in left inguinal region.

Operated April 13.—Low midline incision. On exploring the abdomen the appendix was found bad and was removed. On examining the large bowel it was found that he had a no loop sigmoid with not sufficient slack below the artificial anus to permit the bowel to be brought down to the anal outlet.

The splenic flexure and descending colon was then mobilized and brought down. The old artificial anus then liberated and closed and a piece of bowel about ten inches higher fixed into the old opening in the abdominal wall and a new anus made.

The sigmoid and upper portions of rectum were then mobilized. The sigmoid and superior hemorrhoidal arteries were ligated high up above all anastomatic branches. An ample loop

of bowel was secured which was coiled up in the pelvis. The abdominal wound was then closed and the patient placed in the lithotomy position. The external sphincter was now divided posteriorly at the commissure and dissected free from the anal mucosa, the sphincter being pushed away laterally in all directions. From the lower part of this wound an incision was then carried up to the sacrum on the left side of the coccyx. The rectum was dissected free from its attachments and completely liberated and brought out of the opening and the bowel above brought down. The rectum was found completely obliterated. The upper portion of the bowel was loosely fixed at the anal outlet with a few stitches. The bowel then divided, allowing about one inch to protrude from the anal outlet. No attempt was made at this time to approximate the sphincter to the bowel wall. A drain passed up into the pelvis behind the bowel and a few approximating sutures in the posterior wound alongside the coccyx completed the operation.

He was discharged from the hospital on May 8th to recuperate. Readmitted June 12th, and operated next day, when the sphincters were fixed around the lower end of the bowel. Discharged July 6th. Readmitted September 12th. Closure of colostomy September 14th, resulting in small fistulus leak, which was closed October 5th. On October 30th the muscles at the site of the old colostomy showed some evidence of hernia and were tightened up.

Discharged cured, December 24th. This patient's stay in the hospital was considerably lengthened and the difficulties of the work increased by his having become addicted to morphine during the course of his troubles.

He was cured of this habit when he left. I have seen him twice since he left. He has remained cured of his addiction and has perfect bowel control.

History 78274, Mrs. M. Entered Touro October 31, 1919. A large mass about the size of an orange was located about six inches above anal outlet and presented all the characteristics of a malignancy. As her general condition seemed fair we agreed to do a one-stage operation if possible.

Operation November 1—Low midline incision. The growth was located just behind the uterus and was freely movable. The sigmoid was ample and the circulation so arranged as to

facilitate its mobilization. The operation was done as described above and offered no special difficulties. There was considerable shock following the operation and patient rallied slowly. On the 3d day she was doing fairly well and continued so until the 6th day, when it became apparent something had gone wrong in the abdomen. Her symptoms suggested a mesenteric thrombosis, but I was never able to verify it or to feel certain about it. She died very suddenly that night.

History 96903, Mrs. H. Admitted Touro April 30, 1922. Diagnosis, carcinoma of rectum. Operated May 2d. Low mid-line incision, mobilization of sigmoid and liberation of rectum from surrounding parts within pelvis. Abdomen closed. Patient placed in lithotomy position. Sphincters divided posteriorly. External sphincter dissected free and pushed off to side. Internal sphincter removed with bowel as growth descended to within about four inches of anal outlet. Bowel freed from perineal attachments and brought down out of wound and divided about four inches above growth. Margin of bowel fixed with several sutures to external sphincter. Drain passed up into pelvis, and few silk worm sutures completed operation.

It was unnecessary in this case to do a three-stage operation as sigmoid was ample and quite freely movable.

Pathological examination of specimen showed adeno-carcinoma. Patient developed a psychosis following operation and made a slow but satisfactory recovery. Discharged July 22d. She reported for examination four months later to see if any additional suturing was needed around anal outlet as she had left the hospital without this being completed owing to her poor physical condition. During this interval she had regained perfect health, the sphincters had healed around the bowel and she had excellent control. Nothing further was done.

History 95042, Mr. C. Admitted Touro Infirmary January 29th, 1922. Diagnosis, ulcer of anal canal. Operation January 30th. Perineal incision with removal of six inches of rectum with implantation at anal outlet. Secondary hemorrhage several hours later controlled by packing, which resulted in breaking down of suture line. It was discovered after operation that patient was an addict. This caused much trouble during this and the subsequent visits which patient made before the several surgical procedures were completed, but he finally

left the hospital cured of his rectal condition and his addiction. Pathological examination of specimen showed it to be an adenocarcinoma. This finding convinced me that the operation had not been sufficiently thorough for this condition. While the patient's addiction was a serious handicap it was thought best to do a more radical procedure, the various steps of which were as follows:

February 6th.—Colostomy in left iliac region. Removal of additional portion of rectum with stump closed and dropped into pelvis. Discharged March 18th.

Readmitted April 14th.—For purpose of having bowel restored to anal outlet. Operated April 20th.—Double abdominal and perineal operation. Mobilization of sigmoid and implantation of lower end of bowel at anal outlet anchored to remnant of external sphincter. May 6th—Suture of sphincter around bowel.

May 9th—Same procedure repeated as sutures had sloughed out.

May 14th—Closure of colostomy. May 23rd—Tightening of sphincter by additional sutures as fecal control was imperfect.

Discharged cured of rectal condition and addiction on June 29th.

This case is particularly interesting as he was a confirmed addict taking ten grains of morphine daily, which we had to continue for a time. He remained several weeks after all surgery was completed to make sure he was weaned from this habit. He was also given instructions in exercising his sphincter which he very faithfully and persistently carried out. I have seen patient repeatedly since. He has gained 40 pounds in weight, has developed his sphincter until he has excellent control, and has not returned to his addiction.

DISCUSSION.

Dr. H. B. Gessner (opening): From my own experience with cancer of the rectum I cannot add anything to what Dr. Allen has said.

I think that he is to be congratulated on his sphincter control in these cases. His ability to excise the rectum and leave good sphincter action is to be commended; he is to be congratulated on his results.

Dr. A. Jacobs: I only wanted to say that I had the great fortune, while an intern at Charity Hospital, to assist Dr. Allen in one of these cases. His results were excellent. It was another instance where the patient was physically unfit for such a major operation but he left the hospital cured, very grateful that he had a perfectly functioning anus.

FRACTURES OF SCAPULA.*

By EMILE BLOCH, M.D., Clinical Instructor Tulane University and Junior Visiting Surgeon, Surgical Service No. 3, Charity Hospital, New Orleans, La.

In compiling statistics on fractures, attention is drawn to the rarity in number of cases of fractures of the Scapula as compared with other bones of the body, from "Treatise of Fractures," J. F. Malgaigne, 1859 edition. Fractured scapulae are so rare that Ravaton, after practice of fifty years, declared he had never seen any except those caused by gunshot on the battlefield.

Among 2358 cases at Hotel Dieu, there were only four. Of 1901 fractures treated at Middlesex Hospital, London, 18 were fractured scapulae. A resumé of number and classification of fractures at Charity Hospital, New Orleans, La., may be of interest. From January, 1906, to November, 1922, there were recorded on the indoor service 8097 fractures, of which 28 or 289% were fractured scapulae.

		—Adult—		—Children—	
		Sim- ple	Com- pound	Sim- ple	Com- pound
Upper Extremity	Vault	387	149	108	34
	Base	718	40	99	34
	Face	350	81	22	13
	Clavicle	154	1	28	1
	*Sternum	9	1	0	0
	Scapula	27	1	2	0
	Humerus	333	67	116	9
	Forearm	349	87	80	14
	*Corpus or hand	27	22	1	3
	Ribs	454	6	16	1
Lower Extremity	Vertebra	179	4	13	0
	Pelvis	111	16	21	2
	Femur	1018	132	288	14
	Patella	129	8	3	3
	Leg	1144	546	136	37
	Ankle	230	32	5	1
	Foot	154	41	5	5

The Scapulae with the Clavicle forms the shoulder girdle, the humerus being supported on its glenoid surface. It is not directly connected with the trunk but articulates with the lateral end of the Clavicle and extends from the second to the seventh rib on to postero-lateral surface of the thorax. The

*Read Before the Orleans Parish Medical Society, February 26, 1923.

*From the Department of Surgery, School of Medicine, Tulane University.

Scapula of man is characterized by greater proportionate length of its vertebral border and the size of the acromion process as compared with other animals. The range of motion depends on the attitude of the limb, rising or falling, being drawn inward or outward or being rotated on itself according as the arm is moved in various directions. A short resumé of anatomical points may not be amiss before subdivision of fractures.

ANATOMY: The bone is divided into a head, neck, body, spine, coracoid and acromion processes, superior vertebral and axillary borders, glenoid fossa and inferior, medial or superior angle.

OSSIFICATION: There are seven centers of ossification; it begins in the body of the cartilagenous scapula about the second month of foetal life. At birth the head, neck, spine and base of the coracoid process are well defined, the vertebral border, inferior angle, glenoid fossa, acromion and coracoid processes are still cartilagenous. Ossification is not complete until the twenty-fifth year. This latter statement is contradicted by some.

FRACTURES OF SCAPULA IN GENERAL.

ETIOLOGY: As in other fractures direct and indirect violence and muscular action are the cause. The majority are by severe direct violence, as blows or falls, especially in fractures of the body and acromion process. Indirect violence is a less frequent factor, as blows on shoulder or elbow, and associated with injuries to the humerus. Muscular action is very rare and exists in the process fractures. Dr. Heyler records a case of a man aged 49, fracture of body by muscular action. Tabulation of fractured Scapula at Charity Hospital, New Orleans, La. All cases tabulated in my survey have been by direct violence.

FRACTURES OF THE BODY OF THE SCAPULA.

J. L. Petit arranged them into transverse, oblique and longitudinal. Desault made a special variety of the lower angle. Boettcher wrote on those of the posterior angle. A. L. Richter brought forward again following Paulus Aegineta and A. Paré, fractures of the spine of the bone. If one studies the muscular attachment in this region it is readily seen why fractured fragments are slightly displaced and though the deformity exists there is little disability. The scapula has attached on its under

*NOTE—Fractures of Sternum and Carpal Bones to be further investigated.

surface the subscapularis muscle, along posterior border is the Serratus Magnus and Rhomboids and to its dorsal edge below the spine are the infraspinatus, teres major and minor muscles. These muscles are covered by a strong fascia which dips between muscles and is attached to the bone. If the fracture is at the lower angle the teres muscles displace the fragments towards the axilla. The line of fracture extends from the axillary to vertebral border or comminuted in various directions. Of my three personal cases of the body the line of fracture was single. Charity Hospital records show only one case of fracture of both scapulae, one compound and other simple, reported by Dr. William Hamilton, 1912.

SYMPTOMS: Local swelling, inability to abduct arm due to pain, crepitus and abnormal mobility. Localized pain most important.

TREATMENT: Fracture without displacement requires nothing but rest and to keep the arm fastened to the trunk with a body bandage. Binding the loose fragments with adhesive and the elevated arm to the side by a Sayre's dressing, second and third roller of Desault, Velpeau or plaster dressing. A unique method is one used by Dr. Isadore Cohn of using long metal pins (similar to Wyeth's) on ventral and dorsal surface, held together by rubber bands.

For fracture with displacement, various modes of reduction have been tried. Pierre D'Argelata placed a pad in the axilla and drew the elbow against the ribs. J. L. Petit advised raising the arm until the bend of the elbow is opposite the nose and then an assistant should hold it while the surgeon tries to adjust the fragments. Bell recommends raising the head and shoulder so as to relax the muscles of the back. Hester had the arm drawn forward. Desault applied a wedge-shape cushion, the edge in the axilla and the base forming the fulcrum against the chest for the arm. Paulus Aegineta treated these fractures like those of the clavicle by advising that patient be kept lying on the sound side. Abucases applied a pad over the bone covered with compresses and a wooden or leather splint. Boyer, disregarding any displacement, attended only to keeping the bone motionless, therefore he fastened the arm to the side, carrying the elbow somewhat forward.

There are three indications to be fulfilled, *i. e.*, carry the lower fragment backward and inward and the upper forward and outward and to correct any overlapping. The lower fragment is mainly drawn upon by the teres major muscle and therefore to relax this muscle approximate the arm to the trunk, carrying it at the same time backward. The upper fragment is acted on by the rhomboids, which are relaxed when the shoulder is elevated and thrown back.

As for overlapping, there is no means of obviating it. Mere position will doubtless be insufficient to correct the two former displacements. Coaptation should be made with the hand and then the permanent apparatus should comprise as follows: A. Some means of keeping the shoulder upward and backward and the elbow close to the chest, as in fractured clavicle. B. A pad over the upper fragment pushing it forward against the other, graduated compresses internal to it pushing it outward and the same external to the lower one pushing it inward.

The above seems to be the logical treatment but nature laughs at our speculations and in most cases the displacement can't be reduced or retained, therefore try any method. All the trouble of reduction is unnecessary as it is of very little importance and merely fastening arm to body and keeping it elevated by a sling is sufficient.

END RESULTS: According to Moorhead, "bony union generally does not occur, except in impacted forms, and the length of fibrous uniting bands may widely separate the fragments without marked loss of function." In two of my cases, which I was able to follow with skiagraphs, both showed marked deformity without any interference with function.

FRACTURE OF ACROMION PROCESS.

Quoting from text books, the Acromion process remains cartilagenous up until age of puberty and unites with the spine of scapula about twenty to twenty-fifth year. Having had the privilege to study and discuss a series of X-ray plates of shoulders, the property of Dr. Isidore Cohn, I find that this is incorrect *i. e.*, the acromion process is ossified completely in the nineteenth year. The fracture reported in case two of boy, age six, is correct as there is some ossification of the acromion at that age. The acromion is covered by a dense fibrous expansion from the trapezius m. above and deltoid m. below and this prevents a

separation of the fragments. There may exist a separation of the epiphysis a fracture near spine of scapula or outside or inside of the acromio-clavicular joint. *Epiphyseal lines are often mistaken for fractures in this region.*

SIGNS AND SYMPTOMS: Localized pain, swelling and flattening of shoulder and sometimes crepitus. By placing fingers over process may feel a depression due to separations of fragments. The shoulder is on a lower level.

TREATMENT: The forearm should be flexed on the arm and pressure should be made on the flexed elbow to relax the muscular pull on the small acromial fragment. Counterpressure is also placed on the inner fragment. (Reference: Scudder, Fig. 149, p. 149.) Another method is after reduction the application of a Sayre's dressing or modification with direct pressure with pads.

FRACTURE OF NECK AND GLENOID FOSSA.

Said fractures are very unusual and my records only show one each. In neck fractures the line is down through the supra-clavicular notch across the head, across and in front base of spine and parallel with the glenoid fossa. The fragments are held in place by Coraco-acromial and Coraco-clavicular (Conoid and Trapezoid) and the inferior transverse (from base of spine to edge of glenoid cavity) ligaments.

SIGNS: The distinguishing features of a neck fracture are the acromion process is prominent, upper arm is lengthened, crepitus, and the deformity is corrected if the arm is raised. The reappearance of the deformity and crepitus differentiates it from a dislocation of the head of the humerus. Hitzrot and Bolling report eight cases of fracture of the neck of scapula. They subdivide these cases into three groups:

1. Fracture of surgical neck.
2. Those of lower half of neck.
3. Those beginning at the notch and extending downwards through the base of the coracoid process to the glenoid fossa.

Positive diagnosis can only be made by X-ray, but there is suspicious evidence if there is localized pain.

TREATMENT: The immobilization for three or four weeks followed by active and passive motion.

NAME	AGE	RACE	WARD	DATE ADMITTED	DATE DIS-CHARGED	SURGEON AND INTERNE	DIAGNOSIS	ETIOLOGY	COMPLICATION	TREATMENT	PHYSICAL FINDINGS	X-RAY	RESULTS	DIAGNOSIS ON ADMISSION
Camille John	16	White	7	5/27/06	5/31/06	Dr. W. Richards J. E. Landry	Fractured Scapula (xy)	Struck by train	General contusions	Second and third roller of Desault	Not stated	Not filed	Cured	Positive
Frank Mayers	12	White	58	7/5/07	7/28/07	Dr. J. Batchelor Sanderson	Fractured Scapula (xy)	Run over by wagon	Fractured rib and empyema	Velpeau, chest strapped; adhesive as shoulder cap	Crepitus and abnormal mobility	Not filed	Cured	Positive
William Hines	48	White	10	12/16/06	2/9/07	Dr. W. Perkins C. G. Cole	Fractured Left Scapula (x)	Run over by wagon	None	Velpeau	Not stated	Not filed	Cured	Positive
John Badenhurst	57	White	7	6/29/08	7/31/08	Dr. W. Richards Moers and Mitchel	Fracture of body of Right Scapula	Fell 25 feet on cement floor	Fracture seventh rib near vertebra; bronchitis	Adhesive to hold scapula fragments and second and third roller of Desault	Crepitus and abnormal mobility	Not filed	Cured	Positive
Mary Sanders	33	Colored	36	6/7/09	6/12/09	Dr. D. Martin L. Landry	Fractured Scapula (xy)	Fell from hand car	None	Velpeau dressing	Not stated	Not filed	Improved	Positive
Clarence Freloux	6	White	58	7/10/09	8/4/09	Dr. Jos. Danna Gill	Fractured Acromion Process Left Scapula	Fell from horse	None	Velpeau dressing	Deformity (after one week given anesthetic and reduced)	Not filed	Cured	Positive
Otto Muck	52	White	67	2/16/10	3/1/10	Dr. W. Perkins M. E. Brown	Fracture of Wing of Left Scapula	Fell from ladder	None	Velpeau dressing	Not stated	Not filed	Improved	Positive
Charles Anderson	42	Colored	1	6/21/10	7/12/10	Dr. P. Gelpi	Fracture of Scapula (xy)	Struck by log	(Urethritis at time of accident)	Velpeau dressing	Not stated	Not filed	Cured	Positive
Robert Cooper	40	White	68	5/18/10	7/5/10	Dr. E. Leckert Wise	Fracture of Acromion of Scapula (y)	Struck by limb of tree	Lacerated wound of lip	Not stated other than immobilization	Not stated	Not filed	Cured	Positive
Francis Williams	26	White	46	5/29/11	6/3/11	Dr. Danna Patton and Maxwell	Fracture of Neck of Scapula (y)	Fell from automobile	Lacerated wound of knee	Not stated	Not stated	X-ray specified but not filed	Cured	Positive
Louis D. Sellars	28	White	66	6/11/11	6/11/11	Dr. F. Parham Maxwell and Patton	Fractured Right Scapula (x)	Fell, overrun by automobile	None	Not stated	Crepitus	Not filed	Improved	Positive (Dr. Granger)
Joseph E. Johrans	52	White	8	11/24/11	12/19/11	Dr. Jos. Danna Clyde Webb	Fracture of Acromion Process of Scapula (x)	Fell on boardwalk	None	Desault dressing	Not stated	Not filed	Improved	Not stated
Eugene Martin	44	Colored	26	5/13/12	6/17/12	Dr. M. Souchon Wm. Hamilton	Fracture of both Scapula; simple fracture right, compound fracture of left.	Fell from automobile	Lacerated wound of knee	Not stated	Not stated	X-ray specified	Cured	Positive
George W. Darsey	29	White	69	6/30/12	7/3/12	Dr. E. Leckert W. P. Bradburn	Fracture of Coracoid of left Scapula	Struck by automobile	General contusions	Velpeau dressing	Not stated	Not filed	Improved	Not stated
Wille Miller	31	Colored	26	3/10/14	3/12/14	Dr. M. Souchon Simonton	Fracture of Acromion, right Scapula	Embankment caved in	Contusion of chest	Not stated	Not stated	Not filed	Improved	Not stated
Gus Bell	24	Colored	26	4/2/14	4/9/14	Dr. M. Souchon E. Bloch and Garret	Fracture body of left Scapula	Struck by automobile	Fracture, third, fourth, fifth and sixth ribs	Velpeau	Crepitus and abnormal mobility	N. 121 E. (Henriques)	Improved	Positive (accident room, Dr. L. Crawford)
George Schaff	68	White	8	7/27/14	8/12/14	Dr. Jos. Danna Simonton and Laine	Fracture Glenoid Cavity of right Scapula	Fell on shoulder	None	Not stated	Pain and immobility	Not filed (stated in history as taken)	Improved	Negative
Frank Lynch	47	White	68	1/3/15	1/19/15	Dr. W. Perkins Dufner	Fracture right Scapula (x)	Fell down hatch	Contused ankle	Not stated	Tenderness over scapula; pain and difficulty in raising arm	Fractured scapula in vertebral diameter T. 454-55	Cured	Negative
Louis Warner	53	White	9	10/27/16	10/29/16	Dr. Stafford Daniel Murphy	Simple fracture of Acromion Process of Scapula (y)	Fell on back	General contusions	Shoulder immobilized	Not stated	Not filed	Cured	Positive
Frank Washington	75	Colored	23	10/9/17	11/19/17	Drs. Landry and Bloch Howell	Fracture of Acromion Process of left Scapula	Struck by locomotive	Fracture, first, second and third ribs; hemoptysis	Second and third roller Desault	Not stated	D. 4783 (Harney)	Improved	Negative (fracture clavicle and anatomical neck of humerus)
A. Moore	34	White	71	8/21/18	8/27/18	Dr. J. Landry Johnson	Fracture of left Scapula (x)	Fell on shoulder	None	Velpeau	Swelling and pain over scapula	D. 5928 (Harney)	Improved	Negative (fracture of humerus)
William Knight	60	White	69	7/21/19	8/14/19	Dr. Geismar Kits	Simple fracture body above Scapula	Fell into hold of ship	Fracture, eighth, ninth and tenth ribs	Not stated	Limitation of motion of left arm	10147 (Harney) simple fracture of left scapula	X-ray (marked deformity)	Positive
W. J. Lauglan	54	White	71	10/29/20	11/21/20	Dr. Urban Maes Battalora	Fracture of right Scapula (x)	Struck by automobile	None (X-ray of humerus, skull and ribs negative)	Velpeau dressing	Not stated	D.02537 (Harney)	Cured	Negative
George Maekin	26	Colored	26	11/17/20	11/20/20	Dr. Emile Bloch Stiles and Taylor	Fracture body of right Scapula	Fell from ladder	None	Second and third roller Desault	Tenderness over shoulder blade; pain on motion	D. 02954 (Harney)	Deformity; function O. K.	Negative (fracture head of humerus)
Thomas Madden	21	White	66	4/23/21	5/18/21	Dr. W. O. D. Jones Fears	Fracture from Acromion to and including Glenoid Fossil, left.	Run over by automobile	Fracture of first, second and third metacarpal bones	Not stated	Tenderness over shoulder and limited motion of arm	946 B. (Northacker) 1019 B.	Improved; good position of fragments	Negative (contusion of shoulder)
Lawrence Frederico	21	White	8	9/4/21	9/12/22	Dr. Graffagnino Carter and Young	Fracture through Coracoid Process, radiating into body, left	Direct Trauma	None	Not stated	Limitation of motion of left shoulder and swelling	3403 A., 3503 B., Fracture through coracoid process, radiating into body, left	Improved	Negative
John Keffman	30	White	10	8/1/21	8/16/22	Dr. Batchelor Kendal and Martin	Fracture Scapula, left, below Glenoid; position very good	Thrown from moving train	Lacerated wound of scapula	Immobilization	Left shoulder contused	Fracture of Scapula below Glenoid, 2758 D.	Improved	Positive
Gustav Abram	14	White	25	7/23/22	7/29/22	Dr. Gessner	Fracture left Scapula (body)	Struck by train while asleep on track.	General contusion	Not stated	Negative	10347 A., fracture body left Scapula	No displaced fragments; improved	Positive

(x) Location on bone not specified. (y) Right or left not specified.

Case 1. Serial No. 14413. G. M., age 26, wd. 26. Occupation, porter; race, black. Admitted November 17th, 1920. Discharged November 20th, 1920.

Complaint: Broken upper arm.

Past History: All diseases of childhood. Influenza and malaria two years ago. No previous accidents.

Present Illness: When at work in restaurant, on ladder cleaning light globes, he fell, striking right shoulder on chair. He first felt pain in right shoulder and could not raise arm.

Physical Examination: Negative, except swelling and tenderness of right shoulder.

End Result: Good function in four weeks; the X-ray showed marked deformity. X-ray plate No. 022994.

Simple fracture of body of right Scapula. Position, average good.

Case 2. C. M., age 14 (private case). Race, black; schoolboy.

Complaint: Brush burn of left side of face. Hemorrhage into conjunctiva of left eye, contused left shoulder. (Accident room diagnosis Charity Hospital.)

Treatment at Charity Hospital: On admittance, second and third of Desault dressing, 1500 units anti-tetanic serum given. X-ray requested.

Present Illness: Accident occurred at 1:30 p. m., 2/4/20. I personally saw case on 2/5/20 at his home. His account of the accident was as follows: He was coming home from school and was struck and knocked down by an auto. Did not recollect any other fact.

Physical Examination: Showed a swollen left shoulder, very tender, especially when elevating arm. Being unable to remove patient, X-ray was not taken until 2/8/20. Skiagraph showed a transverse fracture of body of left scapula with marked deformity. (Drs. Samuel and Bowie). Another skiagraph taken on 2/28/21. Position of fragments about same. (Drs. Samuel and Bowie).

End Result: Good function in three weeks; the X-ray showed marked deformity.

REFERENCES:

Cunningham's text-book on Anatomy.

Davis Applied Anatomy.

Keen's Surgery, Vols. II and VIII.

Treatment of Fractures, Scudder.

Traumatic Surgery, Moorhead.

I wish to thank Mrs. Farrar Patton and Miss Labaude of Charity Hospital record room and X-ray departments of Charity Hospital and Touro Infirmary for obtaining data and X-ray plates.

DISCUSSION.

Dr. Lucian H. Landry: I want to congratulate Dr. Bloch on his very painstaking and complete table on fractures. This paper will be of considerable help to any one compiling statistics on fractures of all kinds as he has covered the fractures in Charity Hospital for quite a number of years. You have no idea how hard it is to get records on fractures, as our records have unfortunately been very inadequately tabulated. As far as fracture of the scapula is concerned, I have had very little experience, and cannot add more than has been said by Dr. Bloch. We have one case under treatment now at the Charity Hospital, in which Dr. Matas had to do an extensive open operation for an old dislocation and fracture of the head of the humerus with a fracture of the glenoid cavity; there

was a complete, new cavity formed on the anterior aspect of the chest, and it was impossible to put the head of the humerus where it belonged. The head had to be resected; we did nothing for the fracture of the scapula; I am glad to say at this writing the patient is doing very well and promises to give a good result.

PRELIMINARY REPORT OF A NEW METHOD OF TREATING FRACTURES OF THE NECK OF THE FEMUR.*

By E. DENEGRE MARTIN, M.D., and A. C. KING, M.D., New Orleans.

My interest in fractures, as you all know, dates back to my internship in the Charity Hospital. It was soon apparent to me, from the results obtained, that better means, both for the comfort of the patient and the restoration of function, meant that a different course must be pursued. The Liston splint, the Hodgkin's splint, the Buck's extension, and many other crude devices resulted eventually in bony union, but with it, joint fixation almost to the point of ankylosis, the after treatment lasting longer and being more painful than the fracture itself. The problem was to immobilize the fracture and mobilize the joint. For years I used the Hodgkin's splint with admirable results in many fractures. My first work in the nineties was on the patella, my first report was in 1900. The final result I reported to this society last year; this problem I have solved to my satisfaction. For several years I have been interested in a method to mobilize hip fractures, to do away, if possible, with the plaster bandage and long confinement to bed, so trying to the aged especially. Today the Whitman method undoubtedly gives the best results in the non-operative cases, but only in about sixteen per cent of the cases is this satisfactory; furthermore, the application of a proper fitting cast is not easy. Albee's bone peg, the single nail or single screw, though an advance in fixing the fracture, are objectionable because in this method also the parts must be fixed with a plaster spica. In other words, all of these methods fix the femur to the fractured neck and it must be so held for weeks. These patients must lie prone while union is taking place and this is not always assured. The length of time required means a stiff hip or knee joint and often both, with discomfort and suffering to the patient.

*Read Before the Orleans Parish Medical Society, February 12th, 1923.

What we now propose to do is to fix the head of the femur so securely to the trochanter that it will move freely with the femur, leaving every joint free. When union has taken place and the patient is allowed to walk, the joints are all movable and locomotion is begun with ease and comfort. This is done by driving two number 8, three-inch wood screws through the trochanter and into the neck and head and screwing them tight enough to pull the fractured surfaces into close and firm apposition and to hold them together until union is firm, that means for at least three months. Non-union is often the result of non-fixation in the fractured end of bones, and in my opinion atrophy of the head of the femur is due in large measure to this cause. Fixation and apposition of the broken surfaces will furnish the proper nutrition to the head as well as the bone peg, at least we know that in our first case there would have been no union and consequently atrophy, by this method we have union and no atrophy. Our sole object in reporting these three cases is with the hope of interesting you sufficiently to try out the method. As the operation can be done with local analgesia there should be no limit to age. The aged are told today that they must face the inevitable and are doomed to an invalid chair. Is the experiment worth while?

Case 1. Our first case is that of a man of sixty-two years of age, a circuit minister by occupation. First seen by me sixty days after the accident, usual deformity and two inches shortening. Traction and suspension for ten days, some improvement, less shortening. Screws introduced, wound closed, and leg suspended for one week in Hodgkin's splint. Wound healed, sutures removed, and leg freed of all incumbrances. Kept in bed one week longer. Sent home; seen seven months later. One inch shortening, good range of motion, has never suffered discomfort.

Case 2. Female, fifty years of age. Operation ten days after accident. Kept in splint until wound healed, no splint of any kind after that time. No shortening, no limp, wide range of motion in hip, improving daily. Dr. King will present the case to you in a few moments; you can judge for yourself.

Case 3. Female, fifty-four years of age; fracture at base of neck. Marked deformity; screws applied one week after injury; too soon to report results. These skiagraphs which we now present will bear out our statements.

Though the technique is simple it is not always easy to place the screws in the proper position. I have therefore devised this simple little instrument to localize the acetabulum and believe it will prove valuable in our future cases. As you see it is made of soft metal slightly curved and reaches from the

anterior superior spine of the ileum to the pubis. The slot in the center allows the point to be moved in either direction from the center. The instrument is placed on the abdomen with one end on the anterior spine of the ileum and one on the pubis; the skin is marked with a nitrate of silver pencil, the instrument fixed in position with adhesive strips. The radiograph is now taken. When this is developed it will show the instrument in place. Now place the instrument on the radiograph and move the indicator or pointer to the center of the acetabulum as shown on the skiagraph—fix it with the thumb screw—when this is placed on the abdomen between the two marked points it will at once localize the acetabulum. A point over the center of the rim of the acetabulum is marked on the skin and is a guide to the direction of the screw, this added to the information gained by the finger passed into the incision over the trochanter and against the neck of the femur will enable one to point the screw in the proper direction.

The points of advantage we claim are:

1. Good apposition and firm fixation of fractured surfaces, thereby giving the patient the best chance for union of fracture.
2. Free motion in joints during osteogenesis and solidification of fracture, thereby improving the circulation and preventing atrophy of muscles.
3. Allowing the aged, not only to move freely in bed, but to be placed in a sitting position as soon as the wound is healed.
4. Allowing patients to get about on crutches in just one-half the time possible by any other treatment.

Dr. A. C. KING, New Orleans.

Various and sundry methods are in use for fracture of the femoral neck—Hodgen's suspension splint, Sand Bags, with and without Buck's extension, bone grafts, bone pegs, etc. When my attention was called to this two-screw method by Dr. Martin it appealed to me at once. Two screws properly inserted will hold far better than one. (Here Dr. King demonstrated his meaning with pieces of wood with one screw holding two pieces, and two screws holding two pieces together.) The screws must be driven into the bone as tightly as possible after small drill holes have been made through the hard bone

or the trochanter. My patient will now walk for you. (The patient now walked in front of the audience limping on the good leg.) This gentleman shows the manner of walking after the older method of treatment. Now which limb was injured? (A voice, "the right"!) The patient will now show the result of this method by walking correctly. (The patient now walked without a sign of limp, also went up and down stairs with ease.)

This patient began compulsory walking five months after injury, on account of illness in the home, which necessitated her doing the housework. No harm resulted, in fact it seemed to hasten the limbering up process. There is no shortening and the final result is perfect. The left femoral neck was the one fractured.

DISCUSSION.

Dr. Isidore Cohn (opening): When Dr. Martin has something to say about fractures, the profession at large has reason to sit up and take notice, for we know that he and our good friend, Dr. Parham, have been pioneers in fracture work in this section.

It may be of interest to know that in every text book, and in the literature recently written, that the Parham and Martin band is mentioned and creditably spoken of.

I believe this little apparatus of Dr. Martin's, when he perfects it, as I understand, he is going to,—making it out of block tin so that it will fit the body better,—will serve as landmarks for operative and non-operative cases.

In regard to fractures of the femur, particularly in the neck, we hear our friends say: "This is an old person, and there is not much impaction." We cannot tell how much impaction there is unless we resort to a picture of the other side. These two pictures I present were taken in the case of a fracture of the neck of the femur in an old person, 80 years of age, with blood pressure of 240. Many people would not consider that there was much impaction.

It occurred to us at the time that we might get some information by taking a picture of the other side. If you will compare these two pictures you will notice there is probably impaction of $\frac{3}{4}$ inch. After that was reduced the shortening of neck was overcome. We should always, in fracture of neck of the femur, take a picture of the uninjured as well as the injured side, otherwise there is no way in the world to determine whether there is impaction and how much.

I am not going to start an argument,—I do not say (as we have been accustomed to say) break up impaction, but I say anatomic restitution and avoid trouble.

If I might say something in regard to the statement of Dr. King's in regard to the use of the traction table. I do not believe the trouble is with the traction table, but the fault is with the particular operator; he did not see by the X-ray if he had anatomic restitution. I believe a great deal of trouble is saved, and human energy conserved, by the use of the traction table.

Fracture of the neck of the femur is always interesting and I believe, as Dr. Martin said, of the non-operative methods of treatment, there is none better than Whitman's. I have used the Baikan frame and the Thomas splint in some cases. By making use of these

you will have movement of knee rather early. These patients should not be treated by the old methods,—Listen splint, etc.,—simply because they are old. No one of us here would be willing to have our parents, if they are living, subjected to that. We want to give them as comfortable a time as possible.

Dr. J. T. O'Ferrall: I think Drs. Martin and King should be commended for bringing about the opportunity to make a plea for the better treatment of fractures of the hip. I believe there is no class of fracture cases that receive more unpardonable neglect than those of the hip. As has been said by one of the other speakers, many of these people are told that they are too old to treat. This is a great mistake as most of these cases can be cured if the fragments are brought into apposition and held there. In the past week I have seen two cases both of whom were told that they were too old to treat and have now become helpless cripples.

Dr. Martin spoke of the Whitman method of treatment which, in a few words, is reduction of the fracture, marked abduction to force the fragments in apposition and internal rotation which also improves the apposition and fixes the fracture. The patient is then put into a plaster spica. This enables them to be turned from side to side and from abdomen to back, and they can be gotten up on crutches, all of which tends to prevent hypostatic pneumonia. It is my opinion that the Whitman method is by far the best for the treatment of these cases.

In discussing Dr. Martin's method with him the other day and in thinking it over since that time, I have wondered what the advantage is over the non-operative method. It seems to me that any method requiring an operative procedure is much more likely to produce a pneumonia than one in which no operation takes place. It is true, however, that Dr. Martin asserts that the screws can be inserted without difficulty under a local anesthesia. This is a very interesting point, but it would seem very difficult to accomplish.

Another feature which would seem dangerous is the question of inserting a mechanical or metal appliance into the head of the femur which, as we all know, is deprived of its circulation and osteoporosis is very likely to occur.

In the cases presented, it appears to me there is only one fracture of the neck of the femur and the other two are inter-trochanteric fractures. It would seem that the method is more applicable in this type of fracture than fractures of the neck.

I was very much impressed by the assertion of Drs. Martin and King that their patients were allowed to sit up and soon get out of bed without any form of fixation. It would certainly seem to me that with the femoral head deprived of its nutrition osteoporosis would take place upon weight bearing and the screw tear through the softened head. We know that callus does not get hard for six or eight months. We find many fractures of the lower extremities allowed to perform weight bearing function in six or eight weeks. We also find many deformities, not from poor position, but because they are allowed to walk too early without some protective apparatus. I believe that some supporting appliance should be used for some months in such fractures.

The little apparatus which Dr. Martin has designed for the purpose of determining the angle of the neck of the femur with the shaft is very ingenious. The only criticism that can be found is that it does not determine the anterior posterior curve or angle of the neck of the femur. Albee states that in putting any internal splint into the neck and head of the femur, one should figure on the angle of the neck of the femur from below upward to be about 133° and from backward forward about 10 to 12° . With this angle

figured, you can easily, as a rule, drive the screw or nail through the neck into the head.

Dr. Paul A. McIlhenny: I have listened with interest to the paper of Drs. Martin and King reporting their new method of treating fractures of the femoral neck, and especially so as I have had the pleasure of discussing the procedure personally with Dr. Martin.

I wish to stress a point which Dr. King mentioned but did not emphasize sufficiently, namely, screws, and how much tension one should put on them. Any one who has done carpentry about his home has found out at some time that he has driven a screw in too far and the screw kept on turning without getting tighter; the screw had stripped the threads out of the wood because it had been forced in too far. This applies to bone as well as wood, and if too much screwing is done the threads will be stripped from the fragments, the screw will then act as a peg, and becoming loose, will cause necrosis. In this method where the object is to draw the smaller fragment,—the neck,—down to the larger, the shaft of the femur, care should be taken not to drive the screws down too far, or trouble may be expected, and generally follows. Another point which I think would help in enabling one to get the screws in properly, and to obtain better relationship between the fragments, would be the bearing in mind that the long axis of the neck is about the same as the long axis of the internal condyle; by abduction, rotation and extension we can bring these lines parallel, and then drive in the screws, thereby getting practically a normal position of neck and shaft. The advantage of this method is that in spite of the claims for the Balkan frame, the abduction method, Hodgen's splint, etc., it enables the patient to sit up in bed in a much shorter time than with any other method, in some cases even before the wound is healed. Hypostatic pneumonia, bed sores, discomfort, etc., make it imperative that these patients, especially the aged, be not left in bed, and when I consider these points other methods fall greatly in the rear of the method developed by Drs. Martin and King.

Dr. E. D. Martin (closing): In closing I wish to thank those who have discussed these cases, but cannot agree that patients are comfortable in a cast, nor do statistics bear out the result claimed by some of the gentlemen. It is true they can be moved with the cast, but not in the cast. In reply to those who doubt, I offer results in evidence.

Dr. A. C. King (closing): I just want to reply to Dr. Cohn, that in using the extension table it must be used very carefully.

Dr. McIlhenny jumped on me for not telling how to put in screws. Anybody who has lived on a farm should know how to do this. As far as putting in screws are concerned, when the head of the screw strikes the bone there is a certain feel of the screwdriver by which you know the screw is home. Any man should have sense enough to stop when the screw stops. Just the same, this comes by actual practice.

Dr. O'Ferrall called attention to the possibility of necrosis in putting a foreign body into the head of the femur. I recall one of Murphy's stunts in a case of fracture of the head of the humerus,—a compound fracture. He took out, from the cavity, head of the humerus, cleaned it and put it back. If the humerus can stand that the head of the femur can stand screws. I think the patient present tonight demonstrates that pretty well.

NOTE.—Since the last report of these cases, three others have been operated upon. One sixty-eight years of age, one seventy-two and one eighty-four, the last two with local analgesia. All wounds have healed primarily and the patients are sitting up.

CHRONIC URINARY DISTURBANCE IN WOMEN.*

By A. NELKEN, M.D., New Orleans.

It is an interesting clinical fact that women are subject to conditions producing urinary disturbance the analogy of which are rarely or never seen in the male. The proximity of the uterus and adnexa, the short urethra of the female, and the trauma incident to child-birth are sufficient explanation in some of these conditions, but falls short of being a plausible reason in many others. Disturbances that for want of a better designation we group under the general title of "neuroses" are usually more prevalent in women, and this term offers a convenient if inexact diagnosis for many of these cases.

Frequency and pain are the two important subjective symptoms in urinary complaints in women. As in the male, frequency may be due to excessive renal secretion of water, so-called diabetes insipidus. Investigation will show that the quantity voided each time represents the normal capacity of the healthy bladder. Many of these cases are cured by the simple expedient of sharply restricting the intake of fluids. The patient has been taking these to excess, laboring under the all too common delusion that water in any quantity can only be beneficial. Some of these diabetes insipidus cases are undoubtedly due to some disturbance of the glands of internal secretion, a subject yet but poorly understood. I have had an occasional interesting example of prompt temporary relief in some of these patients following the oral administration of pituitary gland extract. A recent writer has sought to show a connection between bladder disturbance and food allergy. The cases reported were, I believe, all female. The presence of an anti-flexed or anti-verted uterus in the absence of pelvic inflammation or pregnancy is not, I believe, a cause of urinary frequency. The healthy, non-adherent, non-gravid uterus rises and falls as the bladder fills and empties, and gives rise to no vesical symptoms. Laceration with cystocele, besides predisposing to residual, may give rise to a chronic congestion of the trigone which makes the bladder intolerant of even moderate quantities of urine. Additional damage to the urethral musculature during child-birth may intensify this condition. Some of these cases have partial incontinence, the urine passing involuntarily on laughing

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or coughing. This trouble becomes aggravated with advancing years, when there occurs a general let-down in the muscular tone of the individual.

Pain referred to in the urinary apparatus may or may not be accompanied by frequency. It may be present only during or immediately after voiding, but the rule is that pain is complained of in the intervals between urination as well as during the act. This pain may vary in degree from a feeling of weight or discomfort in the supra-pubic region or in the urethra, or a feeling of uneasiness in the perineum in the milder type of cases to an acutely torturing condition that wrecks the nervous system and reacts powerfully on the physical condition of the the unfortunate victim of these troubles. I have heard them threaten self-destruction if not relieved and have seen drug addiction induced in the effort to find relief from suffering.

Women are liable to the same types of bladder and kidney infections that we find in the male. It may be well to stress here a point too commonly unrecognized, namely, that, for all practical purposes, primary, uncomplicated, chronic bladder inflammation does not exist. Even the rare cases that appear to be an exception to this rule are explained today on the basis of focal infections. The bladder is solely a reservoir for urine. The epithelium lining its walls is resistant to infection in the absence of trauma, and, when infection does occur, prompt resolution usually follows the removal of the exciting factor. Exceptions may be seen in conditions such as aggravated tubercular ulceration where extensive damage has been done not only to the bladder mucosa but to the underlying coats of that viscus as well. In both sexes infection from the kidneys or the presence of tumor or foreign body may be the etiological factor responsible for persisting cystitis. In the male, the prostate and vesicles are frequently the responsible foci. But the short urethra of the female, with its patulous meatus constantly bathed in vaginal discharge and exposed to fecal contamination, makes this sex more liable to urethral infection, with secondary involvement of the bladder mucosa. This susceptibility will explain many cases of acute urethritis and acute cystitis seen in women and girl children where there is no possibility of venereal infection.

Whatever may be the reason, there are two pathological conditions found practically exclusively in the female that give rise to a persistent and painful train of symptoms, the etiology of which is difficult to explain. Because of this very difficulty and the fact that exactly similar symptoms are rarely if ever seen in the more phlegmatic male, there is a tendency to diagnose in women as "bladder neuroses" or "bladder hyperesthesia," conditions that are definite pathological entities. Chronic urethritis in the male, due ordinarily to venereal infection and dependent for its chronicity on disease of the prostate, seminal vesicles, Cowper's Glands, or the Glands of Little, and accompanied with more or less infiltration of the urethra with scar tissue, is well recognized. But this trouble is seldom accompanied by severe pain, burning and urinary frequency, and in the absence of urethral stricture, save for a slight or moderate gleet discharge, the patient has little or no discomfort. The urethra of the female is about one and one-half inches in length. It contains mucous glands, most abundant about the internal meatus, and two larger glandular structures, Skene's glands, whose orifices open at or near the external meatus. Possibly because of the relative simplicity of its structure, infection of the female urethra subsides rapidly and urethral stricture is rare, being usually found at the meatus, secondary to ulcer. But there is a form of chronic granular urethritis not uncommon in women which may give rise to a train of subjective symptoms that has no analogy in the male. In the worst cases, as has just been stressed, the sufferer has periods during which pain, localized in the bladder or the urethra which may be so severe as to drive the unfortunate victim to despair. This pain is not only present at or immediately following urination but may be more or less constant in the intervals. Frequent urination may or may not be a concomitant symptom. The urethra is exquisitely sensitive to instrumentation, and the patient is usually able to localize exactly the painful spot. Cocainization of the urethra is diagnostic, since immediate relief is afforded during the brief interval that the anesthetic acts. Catheterized specimens of urine are microscopically clear, but may show a few pus and red blood cells under the microscope. Cystoscopy examination shows kidney urines negative for pathology and on bladder inspection is

seen a normal mucosa save that there may be some congestion and many minute vesicles at the bladder neck, the so-called cystitis coli. Careful urethroscopic examination will show some congestion of the deeper portion of the urethra and usually there is present a granular condition of the urethral mucosa in the region where the patient localizes the seat of the trouble. This place tends to bleed with the slightest trauma. Some injection of the mucus glands may be recognized and, more rarely, pus discharging from them is seen.

These cases of painful urethritis in women must be differentiated from another and even more painful condition, likewise almost if not entirely restricted to this sex and giving rise to subjective symptoms very similar to those of the more aggravated types of urethritis to which reference has just been made. The so-called "elusive ulcer of the bladder" was first described by Hunner in 1915. However, as Kretchmer shows, this condition has been recognized by Nitze, and he described it in detail under the title of "cystitis parenchymatosis" in 1907. In spite of the attention that has been given to this subject since Hunner's first article, "elusive ulcer" must be a comparative rare condition. Kretchmer, in November, 1921, was able to collect only 48 cases in the literature, all in women. Five of these were his own. Since my attention was first called to it, I have searched assiduously in every suspicious case, but have found this condition but one time. These patients give a history of bladder disturbance, pain, and frequency, which differs from the severer types of painful urethritis cases in one particular, namely, that relief from symptoms for any prolonged period is rare in ulcer and not uncommon in urethritis. Constant pain, frequency, and loss of rest are the symptoms insistently dwelt upon by the sufferer with elusive ulcer, and it is not surprising that, in the presence of negative laboratory findings in the urine, and with the failure to obtain relief by all the routine measures at his disposal, the practitioner confuses cause with effect and concludes that he is dealing with a case of aggravated neurosis with bladder symptoms. Many of these patients have been subjected to various futile operations with no suspicion of their real trouble. But careful cystoscopic examination will show, in an otherwise normal bladder, an area of congestion in the center of which is a slight erosion

of the mucosa. This spot bleeds readily from trauma. This erosion or abrasion is not as superficial as the cystoscopic picture would suggest, involving, as it does, all the coats of the bladder with adhesions to the overlying peritoneum.

Treatment of the elusive ulcer is altogether surgical. The only satisfactory results reported to date have followed wide excision of the entire ulcer bearing area. The treatment of painful urethritis in women is more promising. Dilatation of the urethra, with or without local or general anesthesia, is the basis of treatment in this condition. Indeed, in some of the milder types of this trouble, I have seen cure follow the stretching of the urethra incident to the cystoscopic or urethroscopic examination. It is of interest to note that urethral dilatation was much employed in these cases long before the nature of the trouble was recognized. Ordinarily, the female urethra is susceptible of dilatation much beyond that of the male. Where patience and gentleness are employed, no harm follows the stretching of the urethra as high as 34 Fr. or 36 Fr. All granular areas should be cauterized with strong nitrate of silver solution, applied directly to the lesion through the endoscope. Infected follicles may be destroyed with the High frequency spark. Skene's Glands may be similarly dealt with or laid open and cauterized. Except in rare cases, complete cure or, at least, marked amelioration of symptoms will reward our efforts.

DISCUSSION.

Dr. H. W. E. Walther: Dr. Nelken brought out a point about neurotics and I cannot help but emphasize the point, if I may, that of condemning these people to unnecessary and prolonged suffering by diagnosing them as neurotic, when they really have some trouble. I have seen any number of these cases I myself would like to call neurotic, but conscientiously I have never felt that I could do so. Granular urethritis unquestionably gives a great deal of trouble, particularly post-gonorrheal.

I would like to emphasize the point about stricture in the female. We have been accustomed to think that stricture in the female is rare.

In regard to Hunner's ulcer, Dr. Nelken has very truly stated that there are a number of men who cannot find what he does. Hunner's ulcer is very endemic about Baltimore. I have looked for it and have not seen one case that I felt was that of the Hunner type. Hunner's ulcer is on the roof of the bladder.

There was a point brought out and emphasized at the Chattanooga meeting recently by a doctor who was studying food allergy that struck me as being worth while studying. The doctor had a case of a person who had taken wheat. She reacted to wheat. Taking the wheat away from her, has relieved her of all trouble.

There is one more point: post-radium irritable bladder. It is the most uncontrollable of bladder cases that I have seen.

Dr. Peter B. Salatic: Bladder trouble in the female is something in which I am interested. There was a point brought out at the last session of the American Medical Association meeting, that many women suffer from bladder symptoms after operation. We have all thought that it was from the use of the catheter; this man brought out the point that it is the lack, and not the use, of the catheter. Patients are catheterized after operation; they then void and are allowed to go on and void, but they often do not empty their bladders completely. I make it a point to have the nurse catheterize the patient when she begins to void. A patient thinks she has voided, and often we remove from four to five ounces. Sometimes it is two or three days before the bladder is thoroughly emptied by the patient.

Another point: Many patients have irritation at the neck of the bladder, which causes them to void several times at night and almost hourly during the day. In giving bladder irrigation, if you use the catheter you continue the trouble. I have seen cases that have had the bladder irrigated with the catheter and were no better. Irrigate the female bladder the same as the male—with Valentine tip. You want to reach the neck of the bladder. I use a special syringe and inject 20% argyrol. It is surprising how much benefit they obtain in a very short time.

Dr. Frank J. Chalaron: I have listened to Dr. Nelken's paper with great interest. I must say, though, that my work with the female bladder has been limited, but in all cases I have not failed to find some pathology to explain the symptoms. I agree with Dr. Walther relative to Hunner's ulcer; it must be an endemic around Baltimore though rarely found elsewhere.

The value of dilation is undoubted; it will work provided there is no cystocile. Many cases do not belong to the urologist; they belong to the gynecologist. The trouble is not entirely in the urethra; it is at the outer meatus. The prolapse of the upper vaginal wall causes the urethral mucosa to protrude and there is a pouting at the urethral orifice. The symptoms are due to friction. Many of these cases I have considered do not belong to the urologist and have sent them back to the gynecologist. In the first case the results were good, others, in spite of dilation and operation, are still suffering.

Dr. Nelken (closing): It is interesting to note that, both in my paper and in the discussion that followed, nothing was said about urethral caruncle in women as a cause of painful urination. This is a rather uncommon condition but, when present, may give rise to a great deal of urinary disturbance.

I have not had an opportunity to observe the bladder disturbance following radium to which Dr. Walther referred.

Dr. Salatic brought up an interesting point. It is interesting to see the fear of the catheter that many surgeons have. As a matter of fact, the healthy bladder, as I sought to show in my paper, is highly resistant to infection. These severe cases of infection that follow pelvic surgery are really peri-cystitis rather than cystitis and are dependent not on the introduction of sepsis so much as they are upon the trauma of the operation and the disturbance of circulation that is a part of these procedures. Added to these are adhesions, hematomas and disturbed anatomy, all of which are important factors in these cases of severe bladder infections following pelvic surgery.

Dr. Martin referred to fissure as a cause of pain in some of these cases of painful urethritis. He is impressed by the similarity to anal

fissure. In the latter, however, we have a tear in the mucosa which is being constantly pulled upon by the anal sphincter. Cure follows dilatation, which puts the sphincter temporarily at rest. Fissure at the external urinary meatus, of course, is not in the grasp of the sphincter, and it would not appear to me to be an analogous condition.

PYLOROSPASM.*

By F. J. KINBERGER, M.D., New Orleans.

In selecting the term Pylorospasm to cover the title of this paper, I did so with the intention of covering the subject from the standpoint of Pylorospasm caused by the spasm of the muscular layer of the pylorus and, 2d, those cases classed as Hypertrophic stenosis of the pylorus. In the series of cases observed four cases showed stenosis, three partial and one complete and the other four symptoms of spasm as evidenced by projectile vomiting, gastric wave and loss of weight. The essential cause of congenital hypertrophy is unknown. Two hypotheses have been suggested by Thomson: 1. Hirschsprung regarded it as a primary developmental hyperplasia; 2. regards the muscular hypertrophy as secondary to some form of antecedent overaction, and suggests that this may have resulted from long continued inharmonious working of the various elements of the muscular mechanism which controls the emptying of the stomach. Such incoordination would probably have begun before birth, but would be most active and effective during the first weeks of life. To deranged muscular action of this sort we may attribute not only the hypertrophy of the muscle, but also much of the retention of food in the stomach. As the case progresses, however, other important mechanical causes of obstruction arise, which greatly aggravate the symptoms. These secondary causes of blocking consist in the increasing thickening of the muscular coat of the pylorus and in the longitudinal folding of its mucous membrane.

Another view suggested by an English writer is that the pyloric hypertrophy is associated with hyperadrenalism because clinical evidence supports the view that closure of the pyloric sphincter is controlled by stimulation of the sympathetic nerve supply and its hormone adrenalin. Pancreatic and biliary insufficiency also resulting from hyperadrenalism, accentuate the

*Read Before the Louisiana State Medical Society Meeting, April 11-13, 1922.

pyloric closure and influence the mortality. The sex preponderance is of similar importance.

In a series of cases reported by a foreign writer the symptoms set in unusually early and severely, and the obstruction is dangerously complete before the end of the third week; while in others, in which the diagnosis is equally certain, the onset is delayed and the vomiting and other symptoms are much less urgent. In my series, two showed early and marked symptoms of vomiting, loss of weight and obstinate constipation. The appearance of the pyloric wave could be determined in the majority of cases under observation. Projectile vomiting was observed in all the cases.

In case 1 the persistent vomiting of Leonella B, projectile in character, with history of failure to gain, inability to make the bowels move unless given purgative, called attention to a possible stenosis. This baby was breast-fed and weighed with shirt and diaper $7\frac{1}{4}$ pounds at six weeks. Heart and lungs negative; abdomen soft and thin; extremities flabby and emaciated. Radiographic examination following the barium meal shows the normal stomach, without evidence of pathology. Fifteen minutes afterwards shows stomach half empty. At the end of half an hour the stomach is two-thirds empty. There is no evidence of pyloric stenosis. Weight one week later, 1/19/22, same. Gruel feeding started with use of atrophine before feeding. Weight chart showed, February 2, 7 lbs. and 15 oz. February 15, 8 lbs. and 1 oz. March 1, 9 lbs. and 7 oz.

Case 2: This baby had been fed on various formulas. Mother was unable to nurse. It was given cow's milk dilution to several patent foods. In spite of the change, according to mother, baby continued to vomit. Physical examination showed poorly nourished baby of six weeks with practically negative physical findings. Bowels were constipated. There was some food passing through pylorus as evidenced by stool. There had been loss of weight since birth. There was visible peristaltic wave. Radiographic examination ruled out stenosis. The stomach began to empty immediately, and at the end of one hour is about half empty. Case record shows weight of 8 lbs., 1 oz. at six weeks. At three months weight was 10 lbs., 4 oz., and at six months 16 lbs., 4 oz.

Cases 3, 4 and 5 showed practically same symptoms.

Case 6. Seen by me in consultation, showed, on radiographic examination, that there was marked retention in the stomach after three hours, with only a small amount having passed out. There was evidence of an incomplete stenosis. The family was advised regarding operative means to relieve the condition and refused. At nine weeks this baby weighed 7 lbs. and 11 oz. This mother insisted on nursing her baby, and I was indeed very glad that she did. Gain was rapid at one year; weight 21 lbs. and 1 oz. The treatment consisted in giving the thick gruel as advised by Sauer, and the additional use of increasing doses of atrophine before each feeding. The preparation of the gruel is very important, as it must be cooked to the right consistency. One part of cereal to seven parts of water or skimmed cow's milk. Boiled for one hour in a double boiler. A little salt is added for flavor. Sugar in the form of dextro-maltose may be added. The mother must be instructed to cook food to a jelly. A great deal of patience is required in feeding, because the food is sometimes held in the mouth awhile before swallowing. The cereal can be kept warm by putting the required amount—from 2 to 4 tablespoons—in a cup and standing this in hot water. By taking a small amount of food on a tongue depressor or spoon, it is placed on the back of the tongue and scraped off with another depressor. As the infant takes to the food a hygeia nipple with a large hole in it can be used later on for the modification of the formula. In one case where the mother had sufficient breast milk, she would massage her breast for milk and give along with the food. The use of atrophine played its most important role in those cases with pylorospasm not due to stenosis. A dose of 1/1000 grain was started before each nursing and gradually increased to as high as 1/300 grain without any untoward symptoms. The dose was given about one-half hour before nursing time. According to Potter, the effect of atropine is one that depresses or paralyzes the terminal nerve organs of the para-sympathetic system, supplying the involuntary muscles, the intestines and the secretory glands. The control of the vomiting should guide the dosage and frequency of giving it as in some the drug was given before every other feeding.

The combined gruel and atropine treatment should be kept up for five or six weeks or longer if the infant continues to vomit but shows a satisfactory weekly gain in weight.

The success of gruel feeding, if the co-operation of the mother or attendant is sincere, is apparent by the rapid gain in weight of the baby,—a change in the disposition is remarkable, from a discontented, whiney baby you have one whose attitude is more encouraging. About 15% carbohydrates is given in the mixture as advised, and according to Cannon in his investigations on the physiology of the stomach, carbohydrates are least of all acted upon by the gastric juices and therefore is the first to pass through the pylorus. This plays an important part in the treatment of pyloric stenosis. The vigorous use of atropine has been demonstrated by Haas.

The necessity of an early diagnosis is absolutely necessary, as the loss of weight should not be more than 20% of the birth body weight. A great deal depends on the medical man in his assistance to the surgeon in this respect.

In one of the cases (No. 8) that required operative procedure, the X-ray showed complete closure, and Rammstedt's method was pursued.

The necessary preparation for several days prior to the operation has been insisted upon by some. For this the administration by subcutaneous of a 2% glucose and saline for several days before operation. Six cardinal features are necessary to the success of operation:

1. Gentleness in all intra-abdominal manipulations.
2. Speed but not "hurry."
3. Minimum of manipulation; the exposure and delivery of the pylorus should be so planned that only liver and stomach are seen. Prolapse of intestine and omentum increase the risk.
4. The pyloric incision should be placed as near the convex surface as can be conveniently reached. The mucosa must be exposed throughout its length until it bulges in the wound.
5. The length of pyloric incision; the tumor should be divided throughout its whole length on the proximal side, but should stop just short of its termination on the duodenal side.
6. Hemostasis.

DISCUSSION.

Dr. L. J. Menville (New Orleans): I was very much interested in what the doctor had to say in regard to fluoroscopic examination as an aid to diagnosis. I was also interested in the statement he made about the use of atropin as a method of treatment. From a radiological standpoint we divide gastric spasms into extrinsic and intrinsic causes, the intrinsic due to pathology within the stomach itself, such as gastric or duodenal ulcer, etc., and the extrinsic due to some causes outside the stomach, such as gall bladder disease or appendicitis, etc. We have in belladonna a very valuable drug in making the differentiations of hour-glass spasms caused by lesions within the stomach and lesions without. Belladonna, given to physiological action, will relieve the spasms when it is due to extrinsic causes, with one exception, and that is duodenal ulcer. Sometimes a duodenal ulcer will be present and belladonna will not relieve the spasm; and as duodenal ulcer is a condition which is surgical, it makes little difference, as the case will go to operation. I am happy indeed to have heard the paper of the doctor and want to compliment him upon the thorough manner in which he has presented it.

Dr. Sidney K. Simon (New Orleans): Infantile pylorospasm, of course, occupies a different sphere than we find in adults. I have often contemplated the etiology of infantile pylorospasm and tried to learn from that something about the pylorospasm we see so frequently in adults. I have searched the pediatric literature as to the probable cause, but as Dr. Kinberger says, up to now they have not hit upon the cause of spasm at the pylorus. The rectum spasms are more easily understood since they show a very definite hyperplasia of either the muscular or connective tissues.

I want to take issue with one or two remarks made by Dr. Menville. As we have been accustomed to thinking of belladonna, it is not of much use in a real functional pylorospasm. The radiologist is very often confused in the adult by persisting pylorospasms, since they give rise to filling defects and simulate very closely shadows seen in pyloric ulcer. I have records of cases where pylorospasm has been definitely persistent and where the radiologist has insisted on the presence of ulcer in spite of the fact that the clinical evidence was against it; but the patient has been given over a week's time belladonna and atropin up to the point of tolerance and at the end of that time the X-ray picture showed the presence of a spasm clearly outlined, both in the fluoroscopic view and also in the picture. Operation in at least three of these cases has shown that the pathology was not in the stomach, but outside, the three being in the appendix. That is one of the big problems I find in interpreting my shadows—the filling defects at the pylorus, whether it is really a spasm due to extrinsic causes, or whether it is a definite pyloric ulceration. I have noticed that the spasm at the pylorus is clearly shown in the early pictures, and in which there is no pyloric absorption or gastric retention, in other words, when the stomach empties itself rapidly—after the spasm has been overcome, it may persist for an hour after the barium is given, and in those cases I believe we are dealing with an extrinsic cause, usually the appendix. Belladonna is of no service in that particular type of case in differentiating between a true organic lesion of the pylorus, and an extrinsic or functional case of pylorospasm.

Dr. L. J. Menville: Relative to the question of Dr. Simon on chronic appendicitis as a cause for the quick emptying of the stomach, I can't say that I have observed this condition. That belladonna, given to physiological action, is an important drug in helping to make correct diagnoses in peptic ulcers I might mention that Dr. R. D. Carman, of the Mayo Clinic, in 343 cases of peptic ulcer diag-

nosed with the Roentgen ray, aided by belladonna, 337, or 98.21%, were confirmed by operation. In the instances when belladonna has been used for diagnostic purposes, and has given unsatisfactory results, has been in those cases where it was improperly employed.

Dr. John Signorelli (New Orleans): Pyloric obstruction in infancy is divided into two classes: functional and organic. Strictly speaking, we understand the functional condition may exist from early infancy, or may develop shortly after the birth of the baby. As to the etiological factor of pylorospasm, the latest reports seem to indicate that it is of early origin, usually found in children where the nerve stability is much below par. There is an inclination to term this one of the diseases which makes up the family of spasmodic conditions. Those of later development are usually of a secondary nature and the majority develop as a consequence of improper feeding. Improper feeding does not necessarily mean improper formulae. We do have it in breast-fed infants, where there is an improper proportion of substances in the mother's milk. As a result there is a low grade dyspepsia which gradually lessens the resistance of the baby and sooner or later you have a resulting pylorospasm.

As to the differential diagnosis between functional and organic conditions, we usually find that the so-called hypertrophic pyloric stenosis is present at birth and the diagnosis should be made very easily, inasmuch as the symptoms manifest themselves in the first few weeks. Differential diagnosis is not difficult. All of the symptoms that exist in that condition exist all through with the exception of a tumor, this being found only in hypertrophic pyloric stenosis.

As to treatment, belladonna and atropin have been used in my hands and produced very excellent results in all cases of the functional type. But besides the administration of belladonna you have to correct the real etiological factor. As the feeding had been improper, that must be corrected. Small quantities, more frequently repeated, and judiciously given, with the administration of belladonna, usually gives results; but where you push belladonna and get no results, usually you are justified in making a diagnosis of hypertrophic pyloric stenosis, the treatment of which is surgical.

Dr. F. J. Kinberger (closing): I have nothing to emphasize except the necessity of careful observation in feeding, and the use of gruel feedings in those cases which show partial stenosis. If results are not obtained in seven to ten days, then it is a case for the surgeon.

THE CHARITY HOSPITAL OF LOUISIANA.

By ALBERT E. FOSSIER, A.M., M.D.*

In New Orleans today there towers a great monument, not the masterpiece of some eminent sculptor, not a mass of stone perpetuating the name of some great warrior, prominent statesman or famed philanthropist, nor yet a magnificent edifice recording a great epochal event or a renowned historical achievement, but an institution dedicated to the most supreme work of Charity, alleviation of suffering and the healing of the sick, the Charity Hospital of Louisiana, founded by the sailor, Jean Louis.

On the 21st day of January, 1736, Jean Louis, an inhabitant of Louisiana and a resident of New Orleans, died that day at noon, leaving the following holographic will:

"In the name of the Father, and of the Son, and of the Holy Ghost, Amen.

"Nothing being more certain than death and nothing more uncertain than its hour, being stricken with a dangerous bodily malady, but sane of mind, I desire to settle my affairs, explaining how I intend that my last will be carried out by my testamentary executor, who will be named hereafter, without anyone being able to contravene, being of age, having neither father nor mother, one having died in my childhood and my mother thirteen years ago; besides what I possess I have earned in this country irreproachably.

"As to what may come to me from France of any nature whatsoever, I set in order before leaving and willed it where I should.

"I recommend my soul to God the Father, Son and Holy Ghost, to the Holy Virgin, to my angel guardian, to all the Saints of Paradise, particularly to my holy patrons, praying them to receive my soul amongst the Blessed when it shall pass from this world to the other, Amen.

"I give my soul to God, my body to the earth, asking my executor to have me buried simply. Before my funeral a high mass will be said, during which, if there are priests, others will be said. During one year, on every first Monday of the month, there will be a service for my intention in the parochial church and fifty low masses said.

"Item—I beg those whom I have offended in any way whatever to be willing to forgive me as I forgive. I desire that my notes or debts, if any are found, be acquitted and paid preferably to anything else.

"Item—I give to the parochial church for some ornament or embellishment which my executor will be kind enough to have made, such as a large crucifix or something else at his will, two hundred livres, to be used by him for that purpose according to the most pressing needs.

"Item—I give to the poor of this city who are ashamed to beg two hundred livres and one hundred livres to procure clothes for the most needy orphans, at my executor's pleasure.

"My debts having been paid and the above provisions having been executed, a sale shall be made of all that remains, which, together with my small lot, I bequeath to serve in perpetuity to the founding of a hospital for the sick of the City of New Orleans, without anyone being able to change my purpose, and to secure the things necessary to succor the sick.

*First installment of the Historical Review of the Charity Hospital of the State of Louisiana, written by Dr. Fossier, at the request of the Board of Administrators.—Ed.

"I will and direct that the said sale be made by my testamentary executor, whom I name as director and inspector of said foundation, during his life, and in case of his death or of his removal from the colony he will, at his choice, name a person to execute my wishes.

"I beg the Cure of the parish to kindly work with my testamentary executor for the establishment of the said hospital and the execution of my will.

"This present will, written by my hand, in full possession of my faculties and judgment, revoking all wills and codicils that I may heretofore have made, the same to be null, willing and intending that this present be executed according to its form and tenor, and this rather increased than diminished, referring it to my testamentary executor's good will, and to execute all that is herein contained I pray and name Monsieur Raguette, Councillor of the Superior Council of this province, to kindly take it in charge and act thereon as if it were his own, without being obliged to render an account to anyone whomsoever, nor shall any officer of justice take cognizance of it, trusting entirely in his probity and faithfulness.

"At New Orleans, this sixteenth of November, one thousand seven hundred and thirty-five.

(Signed) "JEAN LOUIS."

A site was chosen at the extremity of the town which, Miro states, stood upon a portion of the ground allotted to the city's fortification and today corresponds to the square bounded by Rampart, Basin, St. Peter and Toulouse streets. The house of Madame Kolly (formerly a convent) was bought by Bienville and Salmon. Half of the money was expended for beds and the usual equipment. With the remaining 5,000 livres, augmented by the labor of the natives, a large brick hall was built.

The following contract for building this hospital gives its only description that is handed down to us today:

"Before the notary royal of the province of Louisiana and the hereafter named and undersigned witnesses, personally appeared Sieur Joseph Villars Dubreuil, contractor for His Majesty's works, residing in New Orleans, who has acknowledged and admitted that he has voluntarily made an agreement with M. Raguet as director and administrator of the said hospital for the poor of the city, called the St. John, founded by Jean Louis, deceased resident of the City of New Orleans, with the advice and consent of Rev. P. Philippe, priest and superior of the R. R. Capuchin Fathers of the province, Asst. Vicar of His Grace of Quebec, also present here, and to carry out the will of the said deceased, Jean Louis, after deliberation made in presence of M. de Salmon, on the twenty-ninth of March, one thousand seven hundred and thirty-six, deciding that there would be built, when M. Raguet pleases, a hall and buildings suitable to the accommodation of the poor, as the house in which they are lodged is too small. Wherefore the said Sieur Du Breuil promises, obligates and binds himself by these presents to have built, constructed and erected on the site of the said hospital a hall measuring forty-five feet in length by twenty-five in breadth and fourteen in height, including the foundations, the whole in walls of well-conditioned brick, subject to supervision conformably to plan and payment now made, which he promises to construct for the price and sum of two hundred livres per cubic fathom, full or empty, and the other requisites, such as lumber, planks, coverings, iron work and entire building at the same price as these are furnished to His Majesty in this country.

The said work will be begun as soon as possible, the sum of three thousand livres having been presently given and delivered to Sr. Dubreuil by Sr. Raguet in specie as payment on account, for which this present serves as a receipt, it being agreed that payments will be made as the work progresses, for security of which the said Sr. Dubreuil has hypothecated all that he now possesses and also what may come to him hereafter, promising, renouncing, each in good faith. Done and passed in New Orleans, before noon, in the year one thousand seven hundred and thirty-six, on the tenth of June, in presence of Sieurs Augustin Chantalou and Laurent Roumier, who have previously signed as first witnesses and have signed with the said parties.

"Signed at the moment these presents: 'Roumier,' 'Raguet,' 'Dubreuil,' 'Chantalou,' 'Henry'."

This the original Charity Hospital was named the St. John, and mentioned in official legal records as "l'hopital des pauvres de la Charité."

In the interesting memorial, dated May 20, 1737, to the Minister in France, written by Bienville and Salmon, they tell that the hospital had five patients. And also from the following abstract from the same report, that this institution served a dual purpose of hospital and asylum to the indigent poor.

"By this means there will be no more mendicants. They will all be interned there and put to some work suited to their abilities. This will even help to diminish their number for most of those who beg and who will be shut up here will prefer to work than to lose their liberty."

For over forty years this "Hopital des Pauvres" was a haven of hope for and administered to the suffering of those intrepid travelers and adventurous pioneers who, drawn by the lure of a promised El Dorado and the fallacious inducements held out by the wily John Law, braved the privations, hardships and pestilences of a primeval country and became stranded on our shores.

Miro tells us that the devastating hurricane which played havoc with the city in the summer of the year 1779 converted the Jean Louis Hospital into a heap of ruins and that only the kitchen and the storehouse escaped the fury of the storm. The destruction of this institution resulted in so much consternation and suffering that in speaking of the calamity, Governor Don Estavan Miro says: "Many sick paupers are now wandering throughout the city in quest of shelter and succor and are hourly exposed to perish upon the very streets, or in some obscure by-corner."

(To be continued.)

The Super-Thief

by Dr M J Gelpi

Mine is a life devoted to the slaughter of the Innocent. The Harlot is a noble creature as compared to me. I have no Soul. What once it was, was bartered long ago for but a paltry bag of gold. I am the living Desecration of real womanhood though sometimes I'm a masquerading Thing that outwardly, would seem to be a man. I am the incarnation of everything that's vile. I am Depravity and Baseness unified and I would smile if you should spit upon my face.

I am in truth the essence of pure Filth itself. I cannot even boast of being surgically clean. And if my food should be in consonance with all my soul and sordid attributes, I should be nurtured on the dregs of cess pools and of sewers and I should drink the water from the gutter and the ditch.

I revel in the dark and shun the light of day - I ooze and slink around at night with toads and snakes and other reptiles like myself. I suck the life blood, nay I disembowel and rend in shreds the tender vitals of unprotected and defenseless babes, before they leave their Mother's womb and thus, I wallow in the gore

I am the Living Lie! For while of humans I profess to be, I am unnatural - a Beast.

I am the Super-Thief and cheat my Country and my God for I steal Life itself, I am, - The Criminal Abortionist.

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EDITORIALS.

THE CHARITY HOSPITAL APPEAL.

There is one phase of the "Charity Hospital Appeal" which must convince every individual conversant with present conditions at the hospital. There is an immediate, pressing need for buildings to house the men and women whose life is an integral part of the hospital. Competent nursing cannot be obtained without room to put the nurses, and it is a fact that such room is not now available. Furthermore the gross incongruity of "Internes" being compelled to live *outside* the hospital which

is also a fact, is nothing short of pathetic. These considerations alone should be sufficient to enlist the enthusiastic support of every individual approached, in behalf of the cause.

FOR EXAMPLE.

A few months ago this Journal commented editorially on the obligation incumbent upon schools in the selection of competent medical men for looking after boys and girls away from home. There is a far reaching note of pathos in the self-explanatory letter quoted below, giving rather full details of a case in point.

In this instance the Southern boy in question suffered severely from the climate and the cold, and he remained uninstructed in the art of protecting himself. Because of exposure perhaps, his resistance was at a low ebb, and he contracted a cold which evidently developed into a pneumonia for which he was admitted to the infirmary. The gravity of this condition was apparently not recognized, for after a few days he was permitted to return to his dormitory where he looked after himself as best he could. During this period even the food he bought was inadequate. Even after his return to the infirmary in a few days, it took an outside physician to recognize and remove forty-four ounces of pus from his chest. The boy died. Here is in part what the father thinks of the tragedy:

"It is too late for anything to be done for ———, but I do hope that something in the way of health supervision can be secured for the benefit of other students. You have in your care some six hundred boys. You provide for certain fees such as gymnasium, etc., but there is no fee provided nor any reference in your catalog regarding *health supervision*. The importance of this matter has been brought home to me very conclusively."

"A fee of \$10.00 for each pupil would provide approximately \$6000.00 per annum toward salary for a competent, conscientious and enthusiastic physician."

"It is not right for a doctor dealing with a student so far away from home to minimize his condition no matter what it is. The exact condition should be stated and the parents permitted to decide what is best to do especially if they are far away. In this case I doubt if the doctor knew how sick ——— was, for I would rather believe that, than to dwell on his permitting

——— to leave his bed when he was so weak that he fainted while going to the bath room.”

“Please appreciate that the purpose of this letter is in no way intended to be critical. Details have been given to emphasize the writer’s opinion that health supervision in schools is vital. We trust that some better provision for the others will at least result from this recent experience.”

The boy who was the inspiration of this letter, was attending one of the best known preparatory schools of this country and yet the authorities apparently were sorely delinquent and not awake to their grave responsibility. The point is that there *should* be medical supervision in schools and that this supervision, to be efficient, *must be placed in the hands of competent individuals.*

A PAGE FROM THE PAST.

Perhaps before this number of the Journal comes off the press, the work of relegating one of New Orleans’ medical and surgical landmarks to the scrapheap, will have begun. The purpose of course will be to replace these old buildings with modern structures which from present indications will leave little to be desired from the standpoint of vastness, scientific equipment and architectural beauty, embodying also elaborate provisions for the comfort and convenience of the sick.

Reference is made to the present main building of Hotel Dieu fronting on Tulane avenue, which was erected in 1859. With the passing of this and the other antiquated buildings representing the last vestige of the old regime, our thoughts irresistibly revert to the past. Here is a bit of interesting history gleaned from page sixteen of Gardner’s New Orleans Directory for 1861:

“Hotel Dieu, Common street, between Bertrand and Johnson streets, New Orleans. The Sisters of Charity lately in charge of Dr. Stone’s Infirmary have opened the above institution for the reception of patients.

“The building is entirely new and built expressly for the accommodation of invalids. The private rooms are spacious, well ventilated and have every convenience for the sick. Competent male and female nurses are constantly in attendance and under the care of the Sisters of Charity. Patients will receive every attention.

“The Slave Department possesses superior advantages for this class of patients, and will receive particular care.

"Consulting Physician and Surgeon, Dr. J. C. Wederstrandt, Physician and Surgeon, Dr. P. C. Boyer. The terms of admission are as follows: Private rooms, per day, \$3 to \$5; wards, per day, \$1; slaves, \$1.

"All patients, upon admission, are required to deposit for private rooms, \$50; wards, \$30; slaves, \$20. The deposit to be renewed if patients remain over the time first paid for. For further information inquire of the Sister Superior of the institution."

For the benefit of those of us whose visiting days at the Hotel Dieu do not date back to 1861, the "Slave Department" was what is now "St. Margaret's Hall."

Contrast with present day conditions, the terms of admission, the laboratory conspicuous by its absence, the "staff" composed of two all-embracing "hphysicians and surgeons" and you have pictured before you between these extremes the complete evolution of modern medicine.

HISTORICAL.

Medical Boards of Louisiana. There have been four acts passed in this state relative to the right of practicing physic and surgery, and the profession of apothecary in 1808, 16, 17, 20.

The following are the leading enactments. A board for each Supreme Judicial District, eastern and western. Each to consist of six members, including in the eastern one apothecary. They are appointed by the Governor in concurrence with the Senate; and the vacancies filled in the same way. Three of each board form a quorum. The Attorney General in New Orleans and the district attorneys in the other parishes, are directed to prosecute for infractions of the laws. The penalty for practicing without a license are, for the first offense, one hundred dollars, and imprisonment for one year. The licenses for either board entitle the holder to practice in any part of the state.

The licenses granted by the board are to be recorded in the clerk's office of the parish where they intend practicing. Applications are to be made to the presidents. They are authorized to charge \$20.00 for each license.

R. Lemonier, M.D., president; Y. Labatut, M.D., J. Rice, M.D., E. H. Barton, M.D., James Jones, M.D. A Delpeuch, apothecary and secretary.

Those living and practicing in New Orleans, year 1840, and none others, are so entitled, unless they came here prior to 1806, and had the certificate required by the Act of 1808, duly recorded in the clerk's office. Upon examination there is no license received previous to 1820.

From Historical Epitome of the State of Louisiana with the Historical Notice of New Orleans, 1840.

SOCIETY PROCEEDINGS.

**PROCEEDINGS
OF THE
HOTEL DIEU STAFF.**

Monthly Meeting for April, 1923.

The President, Dr. Homer Dupuy, in the Chair.

REGENERATION OF ELBOW JOINT.

A case of regeneration of elbow joint following resection of lower end of humerus (including joint surfaces) was presented by Dr. H. E. Nelson and Dr. Lucian Fortier.

Patient female, white, age 47 years. In August, 1893, at 19, while playing, was caught hold of by both arms, just above the elbows, and pinched severely. This was followed by great pain, swelling and ecchymosis. The inflammatory signs and symptoms persisted in the right arm, accompanied by chills and fever. About five months after injury, an incision was made parallel with the long axis of the humerus and in its lower third. Pus was evacuated and a sliver of bone removed. This gave some relief and the arm gave every promise of getting well, when in August, 1894, one year after the original injury, a door slammed on the affected arm, lacerating the soft tissues and contusing the bone. This injury was attended with great pain and bleeding and there followed periodical attacks of chills and fever which would be relieved by the spontaneous evacuation of pus. This condition continued until July, 1895, when upon being advised to submit to amputation of the arm, the father decided to take her to the Charity Hospital and get the advice of the then House Surgeon, Dr. J. D. Bloom. On July 12, 1895, Dr. Jules F. Schmittle, assistant to Dr. Bloom, and under the latter's supervision, operated, performing a complete resection of and removal of the lower third of the humerus including the articular surfaces.

The incision was made on the outer aspect of the humerus and parallel with the long axis. The wound was said to have been stitched at the time of operation and to have healed primarily. The patient was left with a flail joint. The surgeon, however,

very ingeniously devised a moveable and adjustable brace consisting of metal and leather, and instructed the patient in its use. At the end of fourteen months following operation the patient was permitted to dispense with the brace, as at this time the elbow ceased to be flail. During the following six years the patient very conscientiously used active and passive motion and at the end of this period had a most useful elbow joint. Function was so good that Dr. Nelson at first had doubts about the joint surfaces of the humerus having been removed. The exhibition of the removed bone, which the patient had with her, removed this doubt.

X-ray pictures by Drs. Fortier and Gately showed complete regeneration of the removed portion of bone and the formation of a new and functioning joint surface.

The joint had flexion and extension to an almost complete degree, while there was ability to pronate the forearm half way, the function of rotating the humerus compensating for what might be lacking in supination. Dr. Nelson thought the operation performed no doubt consisted of the preservation in situ of enough bone regenerating tissue to make this interesting and remarkable result possible.

EPISIOTOMY.

DR. P. B. SALATICH presented a short paper entitled "Episiotomy and Its Advances in Preventing Laceration and Relaxation of the Perineum." The essayist stated that the most favorable obstetrical patient is the dark-skinned woman of medium build, while the short, stout, fair-haired woman was the one most likely to give trouble. Many of the latter type would manage to force the presenting part down on the perineum, and would then have to be assisted.

The following plan was advocated to save the perineum. When the head was coming down well and the vulvar opening was beginning to dilate, the head was pushed back a little every three or four pains, and the tissues were inspected for beginning tears. If only one-third or one-fourth of the head had passed through the vulva, and the vagina was beginning to tear, the perineum would almost certainly be lacerated. Again, if the ring of the hymen was rigid and unyielding, a tear was probable, while if it was soft and pliable, the perin-



Illustrating case of Drs. Nelson and Fortier. Actual joint surface removed at the time of operation in 1895.



Illustrating case of Drs. Nelson and Fortier. Showing new elbow joint at the present time.

eum would no doubt stand the strain. If a laceration was feared, it was averted by making a right episiotomy under chloroform, passing at once (but not tying) a silkworm gut suture deeply into the incision, through the cut edges of the ring of the hymen. The face was retarded until the nape of the neck engaged under the symphysis. This manoeuvre further materially reduced the tendency to laceration. Tearing by the shoulders was avoided by delivering the anterior shoulder as far as possible, before the posterior one was allowed to be born. The previously passed silkworm gut suture was used as a tension suture; the vaginal cut was sutured with No. 2 chromic catgut, the tension suture was tied, and the skin cut was sewed with silkworm gut.

The writer claimed that episiotomy saved the perineal structures from serious injury, that severe after-effects of labor were avoided, and that the patients would be in excellent condition when examined several months later.

**PROCEEDINGS
OF THE
TOURO INFIRMARY STAFF.**

Monthly Meeting for April, 1923.

Dr. M. Feingold in the Chair.

DIASTATIC ACTIVITY.

DR. W. E. LEVY presented two cases to demonstrate the possibility of differentiating between a true toxemia of pregnancy with an impending eclampsia, and a case of pregnancy complicated by a chronic nephritis.

Dr. Levy, corroborating with Dr. Bowden, and starting this work about a year ago, following the technique as set forth by McKenzie Wallis in the *British Journal of Gynecology and Obstetrics*, for estimating the diastatic activity of the urine. They divided their cases into the two aforementioned groups, and their results were most gratifying.

He said that McKenzie Wallis set as his normal figure 15, and that any great variance below this speaks for a chronic nephritis, whereas a high figure was indicative of a toxemia of pregnancy.

Mrs. McG. Age 31 years, Para. 4. Family history negative. Personal history: Usual diseases of childhood. (No history of an acute infectious disease.) Recent medical history negative. Surgical—negative. Obstetrical history: Two children living, 9 and 5 years, respectively. One child dead; premature and stillborn. All labors and puerperiums normal, except last. With this pregnancy, which was the one resulting in the premature birth, patient had albumen, high blood pressure, and various other symptoms of an impending eclampsia, and was given routine medical treatment therefor.

Present illness: The patient was referred by one of the staff, about January 1st. He called to see her and was told of her previous pregnancy. Her blood pressure on the date of the first visit was 140-95. Urine negative for albumen. One week later her blood pressure had risen to 165 (systolic) and her urine showed about .5% albumen. Routine medical treatment and diet for an impending eclampsia were instituted. Two days later the patient was seen and it was found that in spite of dieting and treatment, her blood pressure had risen to 210 and her urine contained 10% albumen. On admission, her blood pressure was 205-125.

Routine treatment was given, but in spite of this, her blood pressure never came below 180, her urine never less than 16% albumen, but no casts, and she still had a tingling sensation in her hands and arms. Her P. S. T. was 50%. Her diastatic activity was 100 units, rising to the unbelievable amount of 600 units. Eye grounds negative.

Diagnosis: Pre-eclamptic toxemia.

Treatment: Induction of labor by insertion of catheters.

Post-partial: On the second day her blood pressure was 170-130 and her urine contained 4.5% albumen, but no casts.

This case made an uneventful and a febrile recovery.

Mrs. E. S. Age 36 years. Para. 6. Family history negative. Personal history: Usual diseases of childhood. Recent medical: Severe attack of malaria several years ago. Obstetrical history: Four children living. One miscarriage of four months. Last child delivered by Caesarian section at Charity Hospital, due to patient having had convulsions. Patient unconscious for two days following delivery.

Present Illness: The patient visited the obstetrical clinic on January 9th. Her blood pressure that day was 160-95, and she had 1% albumen. She was sent home to bed, with our usual routine directions. Two days later I called on her. She had been vomiting and felt generally bad. Her blood pressure had risen to 190. I immediately sent her in to the institution.

On admission, she was given routine treatment, and the usual observations were made. Her urine contained never over 4.5% albumen, but had fine and coarse granular casts. Her P. S. T. was 20%. Her diastatic activity was 6.5 units. Her blood showed non-protein nitrogen 39.9 mg. per 100 cc. Urea nitrogen 25, creatinin 1.5, uric acid 4. Dextrose 100 mg. per 100 cc.

Dr. Bamber, in reporting on her condition, says: "Heart slightly enlarged to left. Systolic murmur at apex and over aortic area. A2 ringing and accentuated. Pulse rate 96. No definite findings in lungs. Blood pressure 190,120."

The patient delivered spontaneously four days after admission. Her recovery was uneventful, except that her blood pressure never went below 190 and her urine still contained albumen and casts.

Diagnosis: Nephritis and mitral insufficiency.

In contrasting the cases Dr. Levy stressed the point that the first case, that of an impending eclampsia, showed a normal P. S. T., a high albumen content, no casts, and a diastatic activity of 100 to 600 units. The second case, the one of nephritis, showed a P. S. T. of 20, a low albumen content, casts, and a diastatic activity of 6.5 units.

DR. BOWDEN related that the estimation of diastatic activity was begun by Wohlgemuth in about 1908. (Since there is no known technique for the estimation of enzymes, per se, we have to estimate their activity). Wohlgemuth, working with Nogouchi and others, applied the estimation of diastatic activity to the urines of nephritics, finding it low in these cases. Later these same observers applied this technique to diseased conditions of the pancreas, both inflammatory and neoplastic. However, in 1917, McClure and Pratt followed their work on pancreatic diseases and if possible to draw conclusions from their paper, Dr. Bowden inferred that they considered it of little or no value. Gillen in 1914 wrote a most excellent article on the value of estimation of diastatic activity in renal con-

ditions. In that paper he makes use of the statement that in eclampsia, the diastatic activity tended to be high. That was the first mention he knew in the literature of its application to pre-eclamptic states. In discussing this method of differentiating between a nephritic and pre-eclamptic state, the suggestion was made that it was probably of little value because it was largely controlled by dilution. This suggestion naturally seemed very logical and she felt a great sense of disappointment, for she had been quite enthusiastic concerning the test. With further reading of the literature however, she found that this point had been carefully investigated and unless the dilution or concentrations were very extreme it was found to be a negligible factor. There were several things however that did influence the diastatic activity, namely, blood in the urine, fever, and all infectious diseases. These tended to give a high diastatic activity. In January of 1922 the paper that Dr. Levy mentioned appeared and at his request the work was begun, with very excellent results. So far she did not think it was 100% good, but it had certainly given encouragement to follow up results. Work has been done for the Newman-Levy Clinic, Dr. Miller and Dr. Hirsch and statistics of value will be compiled.

Dr. Bowden explained that the reaction was based upon the principle of hydrolysis of a pure soluble starch into erythrodextrine, achro-dextrine, maltose, etc., giving colors varying from a golden-yellow to wine, to purplish-red, to blue, using 1/100 normal iodine solution as an indicator. The test was simple.

The suggestion in the English paper that fourteen estimations be made on twelve one-hourly and two nightly (6-hour) specimens seemed unfeasible even in hospital cases. As the concentration of the enzyme was fleeting, being killed off by products of its own activity, it was advisable to work with successive specimens. These must be preserved with toluene.

DR. NEWMAN asked Dr. Bowden if she did not think that the employment of the urea concentration test would tend to reduce to a minimum the errors of the diastatic test? He did not think Dr. Levy emphasized one part of his paper sufficiently, that is, that one of his patients had had a Caesarian section performed and despite all the facts of the case, she was allowed

to deliver spontaneously. Dr. Bowden's findings were a great assistance in arriving at a decision as to whether or not labor should be induced.

DR. HILLIARD MILLER said that Dr. Bowden had helped him in four of these cases. In each case the blood was taken without her knowing the status of the patient and her report absolutely coincided with the clinical findings and subsequent developments in each case and assisted him in differentiating between a chronic nephritis and kidney of pregnancy.

DR. BOWDEN, closing, remarked that the urea concentration test was very valuable, but undoubtedly there was a very great difference in the power of the kidney to excrete preformed urea and the urea which was the result of body metabolism. She claimed it was impossible to make a diagnosis on one functional test alone, and that it should be viewed in the light of clinical findings and be followed up by more than one test. The English authors employed four functional tests. The albumin in eclampsia was very much higher than the albumin in nephritis. Qualitative test for globulin in suspected eclampsia should also be done.

DR. LEMANN asked Dr. Levy what was meant by "regular treatment."

DR. LEVY replied that her protein diet was cut out entirely. Purgation was encouraged, diluted with as much water drinking as possible.

NEWS AND COMMENT.

THE LOUISIANA STATE MEDICAL SOCIETY. On April 24th, 25th and 26th the Louisiana State Medical Society held its Forty-fourth Annual Meeting, in New Orleans. From the standpoint of registration, entertainment and scientific discussion the meeting was one of the most successful in the history of the society.

PROJECT FOR DOWNTOWN MEDICAL OFFICE BUILDING. The possibilities of erecting a medical office building in the downtown section in New Orleans were discussed by the Orleans Parish Medical Society on April 9th, and at a meeting of medical men and dentists at the Grunewald Hotel on April 17th.

PASTEUR EUROPEAN TOUR. In order to celebrate the Centenary of Pasteur, there has been arranged for the medical profession a European tour, under the patronage of the French Ministry of Public Works and the French Ministry of Public Instruction. The general management is under the General American Agency of the Railways of France, 281 Fifth avenue, New York, of which L. J. Garcey is the general agent.

"Travel will be first-class throughout. The price of 5820 francs covers everything not of a strictly personal nature while in France. No price has been quoted for the ocean crossing so as to leave participants full liberty to make whatever arrangements they desire for that portion of the voyage. A trans-Atlantic round-trip ticket can be secured for as little as \$240.00 and \$5.00 war tax."

The Honorary Committee in charge of the tour is as follows: President J. J. Jusserand, French ambassador to the United States; Dr. Jos. S. Blake, New York; Dr. Geo. M. Kober, Washington, D. C.; Dr. Ernest Laplace, Philadelphia; Dr. Franklin Martin, Chicago; Dr. Rudolph Matas, New Orleans; Dr. William J. Mayo, Rochester; Dr. George D. Stewart, New York.

This trip offers such unusual advantages at such an extraordinarily low rate, that the Journal submits the complete itinerary:

ITINERARY.

Wednesday, July 11—Arrive Cherbourg, Le Havre, Boulogne or Antwerp. Proceed to Paris.

Thursday, July 12, Friday, July 13—Paris. Visit the city.

Saturday, July 14—Visit and reception at the Pasteur Institute, the School of Medicine, and at other institutions of professional interest.

Sunday, July 15—Automobile excursion to St. Germain and Versailles.

Monday, July 16—Excursion to Fontainebleau. Visit the forest by automobile. Visit the Castle and Park.

Tuesday, July 17—Paris.

Wednesday, July 18—Excursion to Chantilly and Senlis.

Thursday, July 19.—Paris.

Friday, July 20—Leave Paris for Chateau Thierry, Belleau Woods and Rheims.

Saturday, July 21—Rheims. Visit the battlefields of Champagne. Leave for Verdun.

Sunday, July 22—Verdun. Visit the city, the forts, the "Trench of the Bayonets."

Monday, July 23—Visit Montfaucon and other sections of the Argonne. The American Cemetery at Romagne. Proceed to Strasbourg.

Tuesday, July 24, to Sunday, July 29—Strasbourg. Visits of the city. The International Exhibition. Official Receptions.

N. B.—The Dermatological Congress will be in session July 26th to 28th, the Leprosy Congress, July 28th to 31st.

Monday, July 30—Leave Strasbourg for Selestat on the first leg of a five days' automobile journey through picturesque Alsace, the Vosges and the Jura mountains.

Tuesday, July 31—Leave Selestat for Colmar by automobile.

Wednesday, August 1—Leave Colmar for Mulhouse by automobile.

Thursday, August 2—Leave Mulhouse for Belfort by automobile.

Friday, August 3—Leave Belfort for Besancon by automobile.

Saturday, August 4—Besancon, scene of Pasteur's early studies. In the afternoon, excursion to Dole, Pasteur's birthplace.

Sunday, August 5—Excursion to Arbois, where Pasteur was a pupil of the "école primaire" and the lycée.

Monday, August 6—Continue by automobile along the "Route du Jura" to Geneva.

Tuesday, August 7—Geneva. In the afternoon, cross Lake Lemman to Evian.

Wednesday, August 8—Evian. Reception by the municipal authorities. Visit the city. The Thermal Springs. The Casino.

Thursday, August 9—Leave for Chamonix by automobile along the beautiful "Route des Alpes."

Friday, August 10—Chamonix. Mont Blanc.

Saturday, August 11—Continue by automobile along the "Route des Alpes" to Annecy.

Sunday, August 12—Annecy. After dinner proceed by train to nearby Aix les Bains.

Monday, August 13—Aix les Bains. Visit the Thermal Springs and Casino. Reception by the municipal authorities.

Tuesday, August 14—Leave for Vichy.

Wednesday, August 15—Vichy. Visit the Thermal Establishment. The Casino. The Park. Reception by the municipal authorities.

Thursday, August 16—Vichy. Leave for Paris in the late afternoon.

Friday, August 17—Paris.

Saturday, August 18—Leave Paris for Le Havre, Cherbourg, Boulogne or Antwerp. Embark on homeward-bound steamer.

EUROPEAN TOUR. The tour is intended for physicians and surgeons and their families desirous of visiting the best

known clinics in Europe. The party leaves Montreal on June 16th on the S. S. Megantie, "at an inclusive cost for the tour of \$1,450.00." Visits are contemplated at the clinics of Sir Berkely Moynihan, Sir Harold Stiles, Mr. Geo. Grey Turner, Mr. James Rutherford Morison, Sir Robert Jones, Sir Arbuthnot Lane, Pierre Duval, Theodore Tuffier, Rafaele Bastianelli, De Helley and others. Communications should be addressed to Earl B. Hubbell, 14 North Dearborn St., Chicago.

AT THE CHARITY HOSPITAL, NEW ORLEANS. The Board of Administrators in conducting the Charity Hospital Appeal have organized in the following manner: Mr. Fred W. Evans, Retail Merchants; Messrs. Sylvan Levy and C. A. Hartwell, Wholesale Merchants; Mr. C. C. Cowles, assisted by Dr. W. W. Leake and Fred W. Matthews, the whole State outside the Parish of Orleans; Mr. Wm. Pfaff, Political and Fraternal Organizations; Dr. Geo. S. Bel, Medical Profession.

A meeting of the ladies was called and the following ladies were appointed in charge: Mrs. Geo. G. Whitney, Hon. Chairman; Mrs. Chas. F. Buck, Active Chairman; Mrs. Jos. E. Friend, Vice-Chairman; Mrs. Marie Louise de la Vergne, Secretary.

Practically the whole city has been mapped out and assigned to the different workers, and their work preliminary to canvassing is well under way already.

The old Y. W. C. A. building, 920 Common street, having been loaned by Mr. C. A. Hartwell, is being used as the Appeal Headquarters. Any donations by check should be made payable to the Charity Hospital Appeal Fund.

AMERICAN PROCTOLOGIC SOCIETY. The twenty-fourth annual meeting of this society will be held in Los Angeles, Calif., June 22 and 23, 1923. Clinics will be held at the Los Angeles County Hospital. An interesting program has been arranged. The profession is cordially invited to attend the public sessions.

MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA. On April 1, the office of the Executive Secretary of this society was transferred from 212 North Third street to 230 State street, Harrisburg, Pa. On the same date the Pennsylvania Medical Journal became the Atlantic Medical Journal, with office of publication located at same address.

BOOK REVIEWS AND NOTICES.

All new publications sent to the JOURNAL will be appreciated and will invariably be promptly acknowledged under the heading of "Publications Received." While it will be the aim of the JOURNAL to review as many of the works accepted as possible, the editors will be guided by the space available and the merit of respective publications. The acceptance of a book implies no obligation to review.

Intestinal Parasites and Human Disease, by Asa. C. Chandler, M.S., Ph.D. Pub. by John Riley & Sons, Inc.

The author states, and wisely so, that the most pressing need of the present time is the education of the people as a whole in the subjects of parasitology and preventive medicine. He further states that popular ignorance of many important facts concerning these diseases, even facts that have been common bases of operation for scientists for many years, is deplorable and that it is not so much need for additional knowledge of the cause, control, and prevention of diseases as it is the efficient application of what we already know.

Prof. Chandler has compiled in this book an immense amount of information, covering in some instances quite thoroughly, both in a general and a special way, the different protozoa, worms, and arthropods. The writer apologizes for the occasional overlapping of subject matter which is most difficult to avoid in a work of this character. It is remarkable that no greater duplication occurs since many of the subjects are naturally interwoven. The book is intended for the use of physicians, sanitarians and other health workers, for teachers in colleges and public schools and the lay public in general.

The book is divided into three general heads, each giving in detail the cause, mode of transmission, preventive measures, and treatment of the various diseases. Under the chapter devoted to protozoa is included the spirochaetes, Leishman bodies, amoebae, trypanozomes, intestinal flagellates, malaria, and other protozoa. The second chapter covers the worms, including the flukes, tapeworms, round worms, hookworms, trachina, filaria, and leeches. The third section describes the arthropods, which include the mites, ticks, bedbugs, lice, fleas, mosquitoes, flies and myasis.

According to statistics there is no human disease of more importance in the world today than malaria, and there is no disease for which we have a more certain cure, yet the author, in his effort to bring the second edition of his book up to date, has most erroneously and inaccurately quoted one of our leading scientists, Dr. C. C. Bass, whose work on malaria is recognized and accepted all over the world. It is all the more regrettable that such misleading statements should occur since the book is written expressly for the purpose of enlightening the lay mind on this all-important disease.

E. B.

Diseases of Infancy and Childhood, by Louis Fischer, M.D., 9th rev. ed.: Vol. I, Infant Feeding and Organic Diseases; Vol. II, Infectious Diseases, Orthopedic, Eye, Ear, Skin, etc. F. A. Davis Co., Philadelphia, 1922.

This work, now revised, appears in two volumes. Originally written in 1907, the demand for this complete and painstaking treatise on diseases of children has warranted the successive editions. The management of marasmic and premature infants, the home modification of milk, and a very comprehensive description of stools

with illustration, are all noted in the first volume. The illustrations are numerous and very clear cut,—the various colored ones are particularly good. Transfusion, Schick reaction, anaphylaxis, allergy, asthma, diseases of the ductless glands, are treated in an extremely interesting manner in the second volume. Graphic and temperature charts, Roentgen ray and diseases of the skin are added topics of interest, to be found in this volume. The general practitioner would find this work of great assistance in the field of diagnosis. C. J. B.

Diseases of Children, by Herman B. Dheffield, M.D. C. V. Mosby Co., St. Louis, 1923.

The experience of thirty years is systematically arranged in this rather unique contribution on diseases of children. Examination of the patient and semeiology of disease constituting Chapter II is well worth the purchase of the volume. Although this book deals principally with differential diagnosis there are many suggestions regarding treatment of diseases, and prescriptions for various illnesses that add to its originality. The table of average composition of common American food products is well placed and will be favorably received by most mothers who have recently become interested in calories, etc. On the whole it is good, and should be well received by the pediatricians. C. J. B.

Nutrition of Mother and Child, by C. Ulysses Moore, M.D., M.Sc. (Ped.), and Myrtle Josephine Ferguson, B.S., B.S. in H.Ec. (Lippincott's Nursing Manuals). J. B. Lippincott Co., Philadelphia and London, 1923.

This recent addition to the various works concerned in the general consideration of child life, etc., should be received by many mothers anxious to be enlightened on the latest contribution on feeding and diets. The vitamins and some common fallacies in the care and feeding of children contained in chapters III and XIII, respectively, are well written and are very interesting. The appendix is only fair, and such food recipes as clam soup, liver loaf, cabbage, etc., could have been omitted. In many ways it is not unlike L. E. Holt's latest contribution. C. J. B.

General Pathology: An Introduction to the Study of Medicine. Being a Discussion of the Development and Nature of Processes of Disease, by Horst Oertel. Hoeher, 1921, New York.

This book rather briefly attempts to consider the various phases of general pathology in 340 pages of text. It does not contain any illustrations and beyond the list of principal names, there are no references.

The author divides the subject into two great divisions: In book No. 1 is considered the etiological factors in the production of pathological processes, which is further divided into the external factors and internal factors. Book No. 2 considers pathological anatomy, histology and pathogenesis. J. A. L.

Applied Chemistry: An Elementary Text Book for Secondary Schools, by Fredus N. Peters, Ph.D. C. V. Mosby Co., 1922, St. Louis.

This is a very entertaining text book intended for high school students and covers the principles only of that science. There are a number of illustrations, tables and charts which add a great deal to the value of the text.

Several chapters on the manufacture of many of the common substances of every-day use, as well as the consideration of foods and their body values will serve to indicate the diversity of the reading

matter. At the end of each chapter is a list of "exercises for review," and the end of the book is taken up by "tables of reference" and "chemical glossary."

J. A. L.

Clinical Periodontia: A Text Book of Clinical Periodontia. A Study of the Causes and Pathology of Periodontal Disease and a Consideration of Its Treatment, by Paul R. Stillman, D.D.S., and John Oppie McCall, A.B., D.D.S. The MacMillan Company, New York, 1921.

Both Stillman and McCall are exponents of the up-to-date school and express themselves in the newly adopted nomenclature, with which we must acquaint ourselves if we expect to easily understand current dental literature. There is an excuse for such nomenclature because it is entomologically correct and clarifies the subject, and simplifies the diagnosis of disease, by indicating that there should be a discrimination of symptoms.

Nothing has been published on the subject of Periodontia which is in advance of this volume. A great service has been rendered to both the dentist and the physician. To the periodontist and to the general practitioner, the chapter on Traumatic Occlusion is, in my opinion, the most important of all.

The idea that Stillman and McCall are trying to give us the etiology in the hopes that we may limit the disease, by preventing the cause of periodontoclasia is a lovely thought to be derived from the book.

H. W. G.

High Frequency Practice, by Burton Baker Grover, M.D. Electron Press, 1922, Kansas City.

This book has made a place for itself as a convenient guide to those using high-frequency currents. In chapters one and two, the author clearly, and in an interesting manner, defines the meaning of electricity, and high-frequency currents.

The application of high-frequency currents to certain diseases is well worth our consideration. The author gives his technique and results obtained in many diseases. The book has 92 illustration, most of which show the methods employed by the author in the application of high-frequency currents.

L. J. M.

PUBLICATIONS RECEIVED.

P. Blakiston's Son & Co., Philadelphia: The Pathological Physiology of Surgical Diseases, by Prof. Dr. Franz Rost, translated by Stanley P. Reimann, M.D.

J. B. Lippincott Company, Philadelphia and London: The Heart in Modern Practice, by William Duncan Reid, A.B., M.D. Inflammation in Bones and Joints, by Leonard W. Ely, M.D.

Paul B. Hoeber, New York: The Form and Functions of the Central Nervous System, by Frederick Tilney, M.D., Ph.D., and Henry Alsop Riley, A.M., M.D.

E. P. Dutton & Company, New York: The Riddle of the Rhine, by Major Victor Lefebure; preface by Marshall Foch; introduction by Field Marshal Sir Henry Wilson.

Washington Government Printing Office, Washington, D. C.: United States Naval Bulletin, Vol. 18, No. 3, March, 1923. Hygienic Laboratory, Bulletin No. 130. The Campaign Against Malnutrition, Public Health Bulletin No. 134. Studies Upon Leprosy, Public Health Bulletin No. 130. Public Health Reports, Vol. 38, Nos. 10, 11, 12, 13. Public Health Reports, Vol. 37, Part 2, Nos. 27-52, July-December, 1922.

STATISTICAL DATA FOR THE MONTH OF MARCH, OBTAINED FROM THE RECORDS OF CITY BOARD OF HEALTH.
BIRTHS.

	White	Colored
Male	299	133
Female	261	104
Totals	560	237
By Physicians		421
By Midwives		376
Grand Total.....	797	
Stillbirths		42

DEATHS.

—1921—			—1922—		
	White	Colored		White	Colored
Male	184	124	Male	204	111
Female	150	114	Female	176	142
Totals	334	238	Totals	380	253
Under 1 year		69	Under 1 year		98

—Cases—		—Deaths—	
White	Colored	White	Colored
Diphtheria		7	0
Typhoid		4	0
Malaria		0	0
Scarlet Fever		1	0
Whooping Cough		5	1
Influenza		23	12
Measles		0	0
C. S. Meningitis		2	1
Tuberculosis		32	21

DEATHS.

	White	Colored
Cancer	32	8
Apoplexy	31	16
Endocarditis and Myocarditis	22	13
Angina Pectoris	2	0
Other Circulatory Diseases	53	34
Broncho-pneumonia	27	29
Lobar Pneumonia	22	15
Other Respiratory Diseases	1	5
Diarrhoea and Enteritis	6	1
Appendicitis	4	1
Other Digestive Diseases	10	4
Acute Nephritis	5	7
Chronic Nephritis	15	12
All Other Genito-Urinary Diseases	11	2
Puerperal State	6	4
Malformations	6	1
External Causes	32	17

DEATH RATE PER 1,000 PER ANNUM FOR THE MONTH.

		Non-residents Excluded:
White	17.32	14.62
Colored	27.82	24.33
Total	20.15	19.68

Deaths from premature births, violence, etc., are not excluded.

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GENERAL INDEX.

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ORIGINAL ARTICLES.

(No paper published or to be published in any other medical journal will be accepted for this department. All papers must be in the hands of the Editors on the tenth day of the month preceding that in which they are expected to appear. Reprints may be had at reasonable rates if a WRITTEN order for the same accompany the paper.)

DIAGNOSIS OF HIP DISEASE, WITH CASES ILLUSTRATING COMMON ERRORS.*

By E. D. FENNER, M.D., New Orleans.

The diagnosis of Hip Disease, and by this I mean Tubercular Hip Disease, may at first blush appear to be a very simple matter, and one which any fairly competent doctor ought to be able to dispose of without difficulty, and yet it is evident that even men who are competent in many fields of practice are conscious of a certain degree of helplessness when confronted with a case with symptoms referable to the hip, and every year I am called upon to examine cases, at least tentatively diagnosed as "Hip Disease," in whom a proper examination promptly absolves the hip joint from participation in the trouble. A somewhat smaller number of cases is seen by me in which a true "Hip Disease" has not been recognized for what it is, but has been treated for months under a mistaken diagnosis. Many of the first class are acute febrile conditions in which prompt and timely intervention may avert most serious systemic infection,

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and local tissue destruction; in the latter class, the delay in instituting proper protection of the tubercular joint permits the disease to progress to a point where a cure without loss of function is hopeless.

In approaching the diagnosis of Hip Disease there are certain fundamental concepts which should be kept clearly before the mind's eye. In the first place, Hip Disease is distinctly an affection of childhood. Very rare indeed during the first two years of life, it becomes increasingly more common during the third, fourth and fifth years, and continues to exhibit the predisposing influence of age even up to the eleventh year. The statistics of Whitman, and these are supported by all other observers, show that eighty-eight per cent of cases of Hip Disease begin in the first decade of life, and that forty-five and one-half per cent of these presented the first symptoms between three and five years of age. From this it may be deduced that any monarticular affection of the hip, presenting itself in a patient between three and ten years old, must create a suspicion, at least, of tuberculosis.

In the second place, it must be recalled that all forms of tuberculosis, except the acute miliary type, or perhaps the meningeal form, are insidious, and slow in their evolution, and are not attended by high fever, nor the rapid development of acute symptoms. If this indisputable fact were borne in mind, a good many errors in diagnosis would be avoided.

In the third place, one should have clearly in mind the "Signs and symptoms" of Hip Disease. Inasmuch as many of our patients are young children who either cannot, or will not, give us any help, the signs are of more importance than the symptoms. These signs and symptoms may be enumerated as follows:

1. Lameness or limping. The lameness is slight in the early stages, and may be intermittent. It may be present in the early morning, practically disappear during the middle of the day, and show itself again towards evening. It may disappear for days at a time, but it always returns, slowly increasing in constancy and severity, and is always manifest from the beginning to the end of the disease.

2. Pain. Slight and often intermittent in the beginning, steadily increases in severity until it may be agonizing upon

the slightest movement of the limb. Particularly in the early stages this pain is frequently referred to the inner side of the knee and thigh, and leads to a mistaken diagnosis of trouble in the knee. As time goes on it is responsible for the "night cries," which transform the hours of normal repose into a period of tears and terror. Under the influence of proper treatment the pain may become a negligible symptom.

3. Limitation of the mobility of the hip is present from the beginning to the end of the disease. It is never absent, but in the early stages may not be evident except at the extremes of the normal range of motion of the joint. As time goes on the slightest movement may be resisted and painful, and ultimately a true ankylosis of the joint may occur. This limitation of motion concerns all the movements of the joint, even though the limitation be slight, and is never confined to a single plane of motion.

4. Deviation, or attitude of deformity, is the product of the muscular spasm which attends all joint inflammations. It is not present in the beginning, but shows itself fairly soon. The usual position is one of flexion, abduction and outward rotation of the hip, which gives the false impression that the limb is longer than its fellow. In the later stages, and particularly after considerable bone destruction has occurred the position changes to one of flexion, adduction, and internal rotation. In this stage the limb may not only appear to be, but actually is shorter than the other. The degree of deviation varies with the stage and severity of the case, and is naturally much influenced by treatment.

5. Atrophy: This seems to be reflex, and involves the subcutaneous fat, the muscles, and the bone. It is evidenced by a change in the elasticity of the skin in the neighborhood of the joint; in a loss of thickness when the skin is pinched up; in a wasting of the muscles, which begins fairly early, and involves the muscles not only of the thigh, but of the buttock. It manifests itself in the x-Ray picture as a loss of density in the whole bone.

6. Muscular spasm, to which reference has already been made, is responsible for the limp, for the early deviations, before bony ankylosis can have taken place, and for the impaired mobility of the joint.

7. Induration and enlargement of the lymphatic glands, both superficial and deep.

8. Abscess formation may be intra-capsular, or may have broken through the capsule, and occupy the intermuscular spaces in the neighborhood of the joint. Tubercular pus does not form in all cases, but is seen in certainly one-fourth of them.

9. Grating on motion. This is generally included amongst the signs, but it is not present except in advanced cases, and certainly could not be heard except under general anesthesia, or by methods of examination in which inexcusable violence was employed.

10. The general condition of the patient may be considerably lowered. Careful temperature records would probably show slight elevations of temperature in the evening; appetite may be poor; irritability of temper, and listlessness may be shown; and a general deterioration in the physical condition may be evident, particularly where treatment has not been instituted, and where pain and loss of sleep from "night cries" are distressing.

11. The reaction of the patient to tuberculin tests. A positive von Pirquet does not infallibly establish the diagnosis of Hip Disease, because latent disease in a distant bronchial gland may produce a positive reaction even when the hip trouble is not tubercular, but such a reaction is certainly confirmatory; moreover a negative response may very rarely be seen even when tuberculosis is present.

12. The X-ray picture is of immense value in determining the true nature of the case. By its aid we are able to differentiate between tubercular arthritis, and such conditions as simple infectious arthritis, arthritis deformans, osteochondritis juvenalis deformans, with much more confidence than might be possible from a mere physical examination.

With these preliminary conceptions as to the important bearing of age upon the nature of hip trouble, of the insidious, somewhat prolonged, and non-febrile evolution of tubercular hip disease, and with a definite and positive picture of the "Signs and Symptoms" just enumerated, we are prepared to enter upon the examination upon which our diagnosis is to depend. The family and personal history may be of value, as

revealing a tubercular heredity; a previous influenza, measles, or whooping cough, the three diseases which render the child most vulnerable to tubercular infection; an injury, frequently trivial, which may have produced a "*lorus minorae resistentiae*," and from which the onset of symptoms may date; and a record of very gradually advancing disorder marked by intermissions, at least, in the early weeks, but steadily increasing in constancy and severity. But only too often the history, especially in hospital cases, is either impossible to get, or is so unreliable as to be practically worthless. I would like to emphasize certain axioms in connection with these cases, namely:

1. Be suspicious of tuberculosis in all cases of non-articular hip trouble in patients between three and ten years of age, in whom fever is negligible, and in whom the onset has been gradual, but progressive.

2. Exclude, as probably not tubercular, cases with rapid, acute, and febrile symptoms.

3. Make it a rule to examine all suspected cases thoroughly, with the clothing removed, upon a hard bed or table, and include in your examination the neighboring joints, the abdomen, and in particular, the spine.

4. Compare the two limbs as to attitude, apparent length, muscular development, and freedom of movement. Remember that in hip disease motion is restricted, even though the limitation be slight, in all directions, and not simply in a single plane of motion, and assure yourself by searching investigation that the deviation, the lameness, the apparent fixation, and the pain on movement, are in fact due to trouble in the hip, and are not the product of disease in the pelvis, the abdomen or the lower part of the spine.

5. In doubtful cases, it may be impossible to determine with certainty the true character of the hip trouble, and under these circumstances be guarded in your prognosis, endeavor to keep the patient under observation so as to keep track of the progress of the case, and warn the parent of its possible seriousness.

6. Remember that a general anaesthesia can rarely be of any help in reaching a diagnosis. Indeed the complete relaxation of the muscles, and the abolition of consciousness to pain

deprive you of the most valuable indices of the location, and degree of the disease.

The list of errors in diagnosis in hip disease might be made to include almost any number of conditions, but I shall attempt to illustrate only the more common mistakes which have occurred in my own experience.

1. Lumbar Pott's Disease is frequently diagnosed at first as hip disease. The example of this error which made the most profound impression upon me was that of a child of about four years sent to me by Dr. Matas, at the very outset of my career. This little girl had been brought to him with the history of limping, pain in the right hip, and flexion deformity, which had come on slowly and without fever. It is my impression that he did not really examine her, but expressed the opinion that it probably was hip disease, and sent her to me for treatment. Influenced, perhaps, by the statement that he had called it hip disease, I made an incomplete examination, and finding that the hip was flexed, and that attempts to extend it aroused resistance and pain, I put her to bed with weight and pulley traction on the limb. At the end of about six weeks, in the course of a routine examination, I discovered that a sharp kyphos had developed in the lumbar spine, which exposed the true location of the trouble. This simulation of hip disease is by no means rare, and is responsible for many errors of diagnosis. The great Psoas Muscle, lying alongside the bodies of the lumbar vertebrae, and passing down to be inserted by a common tendon with the Iliacus into the inner side of the femur near the lesser trochanter, is in close proximity with the site of the disease in Lumbar Pott's, and is easily irritated to reflex contraction. The result is a flexion deformity of the hip, lameness and resistance to extension of the hip. But in these cases the limitation of motion at the hip is confined to extension; all the other movements, and in particular rotation of the flexed hip, are painless and unresisted. Moreover an examination of the spine will inevitably reveal rigidity and stiffness here. Moreover strong pressure upon the trochanters, forcing the femoral head against the acetabulum will be painless in Pott's Disease, but will cause distress if the hip joint is inflamed. The deduction drawn from these findings will be confirmed by the X-ray pictures of the hips and spine.

2. The communicating branch from the obturator nerve, which not only supplies the articulation of the hip, but also sends a branch to the region of the knee, is believed to be responsible for the pain so often complained of in the knee in cases of early hip disease. One might think that even a cursory examination would reveal the absence of swelling, impaired mobility, or pain on movement in the knee, and I am not able to cite an instance of permanent error of this sort. But the unrecorded histories of many cases would probably furnish numerous examples of such mistakes. Protection is assured by careful examination of both knee and hip.

3. Staphylococcus abscesses involving the deep pelvic glands, or the areolar tissues adjacent to them, and located deep in the pelvis are both too frequently mistaken for hip disease. In these cases the hip is flexed, the child limps, and movement of the hip gives pain. At some time there is sure to be fever in such infection, but often enough the fever subsides to such an extent as to be overlooked, and as a result a false diagnosis of trouble in the hip is made. Even when an abscess has ruptured, and is discharging, and fever is present, the doctor, who perhaps has not learned the early history of the case, explains the temperature by ascribing it to a secondary infection, and clings to the diagnosis of hip disease. The following histories will serve to illustrate the point here raised and to indicate the evidence upon which the hip may be excluded, and the real condition recognized:

Case 2. Y. C., aged three and one-half years, was brought to me on June 16, 1920, on account of lameness, and pain in the left hip. She had been seen by one of my colleagues, who had made a diagnosis of "hip disease," and advised treatment with plaster of Paris spica. The parents were not satisfied and brought her to me. (This information was not obtained until after I had completed my examination, and expressed my opinion as to the nature of the case.) The history as recorded in my notes is as follows: Robust, well-nourished child. Both parents in excellent health. No tuberculosis in the family. In February the child had an attack of pyuria, during which she complained of severe pain in her back and abdomen. There was still a trace of pus in the urine in the middle of May. Some time in April she began to complain of feeling "tired," and had pain in her left knee. For the past three weeks has had pain in the left hip, and has been limping; sleeps well, and has no "night cries." The parents do not think she has been having any fever, but I find the rectal temperature is $100\frac{1}{2}^{\circ}$ F. She is plump and well nourished, but is a little pale in color. Walks with a bad limp. There is no visible swelling of the limb.

Examination: Left hip is held in flexion of about 135° . Extension is resisted but flexion is painless and unimpaired. Abduction

and adduction, with hip flexed, appear to be normal, and rotation is free and not resisted. Forcible pressure on the trochanters gives her no pain. There is a readily palpable tumor mass in the left pelvis just above Poupart's ligament. Slight stiffness of the spine which seems to be reflex to the tumor mass.

June 18, 1920. Urine shows a trace of pus. Blood examined and shows hemoglobin 70%, red blood cells 3,880,000, leucocytes 9,500. Rectal temperature yesterday was 100° F. Skiagraphs showing whole lower spine and pelvis, shows no bone change.

June 22, 1920. A large pelvic abscess was opened below the reflection of the peritoneum, after pus had been drawn by an exploring syringe and needle. Pathologist reported it to be staphylococcus pus.

October 27, 1920. The case is discharged today. The sinus from the abscess proved very rebellious. Except for a tendency to gaseous distention of the abdomen, and one or two obstinate attacks of hives, her condition is excellent. An intestinal antiseptic has benefited the intestinal indigestion a good deal.

February 5, 1921. The child, who has been perfectly well since the first of November, is brought in today on account of irritation and tenderness in the scar. She fell and struck herself on the scar a few days ago. I slit it open, but there is little discharge. It appears to be very superficial. Off and on recently she has been complaining of pain in her right side, and posteriorly. I can discover no tenderness, muscular rigidity, or evidence of any mass in the abdomen. The contour of the spine and its mobility seem to be entirely normal, and motion is painless.

February 28, 1921. The child has continued to complain of sudden pain in the right loin. I have repeatedly examined her back to test its mobility, and to determine any deviation of the spinous processes. Today it appears to me that there is a slight prominence of the first lumbar spine. Skiagraphs taken in A. P. and lateral positions.

March 7, 1921. The skiagraphs reveal distinct disease of the body of the first lumbar with possibly slight involvement of the vertebrae above and below. A positive von Pirquet was obtained on March 5. Treatment, at first by recumbency, and later by plaster jacket.

Case 3. Carl O., six years old, was brought to me on November 7, 1920, on account of pain in his left hip. One maternal aunt died of tuberculosis; no other cases in the family. The boy is well grown, intelligent, and appears well nourished. About two months ago he began to complain of sharp pain in the left hip. This would last a short time and then pass off. There have been frequent recurrences with considerable intervals of immunity. He awakened this morning, after mild complaints yesterday, with so much pain in the hip that he could not walk across the room.

Examination: Superficial and deep pelvic glands slightly enlarged on both sides. Left hip is in slight flexion and abduction. There is considerable muscular spasm and fixation of the joint, all the movements being impaired and distinctly painful. Spine freely flexible. The pain is referred to the region of the hip itself. Involvement of the hip itself is certain, but is it tubercular?

November 9, 1920. Skiagraph showing both hips is negative. A von Pirquet has given an absolute negative result. Anti-rheumatic treatment has not given any relief of symptoms over so long a time, I have concluded to treat him as if the trouble were tubercular. A long spica applied.

January 19, 1921. The spica removed today. He has been very comfortable while wearing it, but was not allowed to walk on the limb. Very little change in the condition. There is still decided

limitation of mobility in all directions, and any effort to carry motion beyond the point of resistance is painful.

January 22, 1921. Skiagraphs taken day before yesterday show no bone changes, except for a slightly lessened density in the left femur, which may well be due to the immobilization. There is still some enlargement of the pelvic glands.

January 24, 1921. Short spica applied today.

March 21, 1921. Spica removed. There is decided atrophy of the thigh, due probably to the effect of the bandage. Skiagraphs still indicate a normal condition of the bones. The mobility of the hip is almost normal, and there is still sensitiveness. The bandage is not re-applied.

April 1, 1921. The hip seems to be entirely well, and the patient is discharged. A report received on March 10, 1923, states that there has never been any return of the trouble. This case was undoubtedly not tubercular, but illustrates the necessity for caution, and perhaps the wisdom of giving the tubercular possibility the benefit of the doubt.

Case 4. Maxime St. P., age 6 years, was admitted to the hospital on June 17, 1922, with a diagnosis of old tubercular hip disease. The record states that he came here two years ago for "sore, swollen and painful right hip." He has returned at intervals to have new spica bandages applied. Altogether he has had about ten casts applied. Upon the removal of the last cast on June 17th, it was discovered that there was a discharging sinus in the groin, on account of which he was admitted to the ward. Weight and pulley extension was applied, and the sinus treated by injections of "B. B. culture." I did not personally see him until the beginning of July, when my attention was called to him. I found him pale, anaemic and exhibiting a septic temperature. There was severe systemic disturbance, and an opening in the groin just below Poupart's ligament from which thin pus was discharging pretty freely. Just at the juncture of the thigh with the perineum there was a second discharging opening, which evidently communicated with the one in the groin. There was a large mass in the pelvis, which certainly contained pus. Examination of the hip caused me the greatest surprise. Gentle manipulation permitted flexion, rotation and other movements with practically no pain. It was evident that the hip could not be seriously involved, or such freedom of motion would have been impossible. It was plain that pus retention demanded drainage, and on July 7th I enlarged the opening in the groin freely, found a large pelvic abscess, and counter drained through a stab wound in the loin. The pus was reported to show a pure staphylococcus infection. The subsequent course was stormy. The drainage became inefficient, the child's condition became very seriously septic. My interne reported to me that he believed that while irrigating the wound he had pushed the nozzle of the irrigator through the wall of the abscess, possibly into the peritoneal cavity. At any rate there was severe distention of the abdomen for a number of days, and shortly after this pus began to show in the stools, and Dakin's solution used in irrigating would escape by the rectum. Gradually, however, the aspect of the case improved, the child gained amazingly in weight and strength, the escape of pus from the bowel practically ceased, and on September 19, 1922, he was permitted to go home to the country. He was brought back about the 15th of January looking very well, plump and walking without trouble, but presenting a small discharging sinus near the anterior superior iliac spine, which communicated with a pus collection near the sacro-iliac joint. On January 17, 1923, I opened this abscess, and removed a considerable sequestrum, which had exfoliated from the ilium. Within a few

days the discharge had practically stopped. At the time of his discharge after this last operation he was walking freely, without pain, and practically without lameness, and the mobility of the hip was free and painless. I can give no testimony in regard to the condition during the two years which preceded by examination of him in July, which led me to conclude that the hip joint was not involved in the inflammation, but it seems incredible that a true tuberculosis of the hip, complicated by a septic infection in the pelvis and osteoperiositis of the whole iliac bone, could have recovered with a hip so free from impaired function as this.

No skiagraph testimony can be adduced in this case earlier than June 2, 1922. Under this date there are two reports from the x-ray department differing widely in their findings. One of these reports: "Rarefying osteitis of iliac portion of the acetabulum, with well marked destruction of articular cartilage and bone—most probably T. B. Head of femur not involved." The other says that there is "Osteomyelitis of the Ilium, not T. B. or Luetic. No joint involvement." This last report I believe I can explain as an amendment of the original report following a discussion with me in which I called attention to the freedom of the joint from fixation. The skiagraphs are very interesting, and might readily justify a diagnosis of joint involvement if viewed without reference to the physical examination.

Case 5 is an example of the disorder known as coxa plana, or osteochondritis juvenalis deformans. The patient, Estelle R., a negro child of 6 years, was brought to the hospital about six months ago with a history of lameness of six months' duration. Examination revealed slight limitation of mobility in the right hip, but only on the extremes of normal motion. There was hardly any atrophy of the limb, and the whole history was one remarkable for the mildness of the symptoms, in spite of the long duration of the lameness. The skiagraphs appeared to me to show the typical changes of coxa plana. A short spica was applied, which was changed once, in January, and a few days ago the child was discharged without any splint, all the symptoms having apparently disappeared. A skiagraph taken last week seemed to indicate a complete restoration of the normal condition in the bone. I regret very much that this picture has been lost, and that I am not able to exhibit it. Until the appearance of the papers of Legg, Calve, Perthes and Waldenstrom, in 1909 and 1910, cases of this sort were always diagnosed as true hip disease of a perplexingly benign character. The diagnosis is based upon the characteristic changes in the femoral head and neck, which indicate serious bone absorption, combined with a clinical course remarkable for the benign character of the symptoms. The ultimate result is nearly always a recovery with excellent function. I shall not enter more in detail into the differential points because I have already in a previous communication dwelt upon the nature and diagnosis of coxa plana.

Case 6 I believe to be an example of true tubercular hip disease. The patient, John Edward H., 2½ years of age, was referred to me by one of my colleagues on February 23, 1923. He is a robust,

plump child. His mother states that she first noticed a limp on August 14, 1922. He was taken at once to the hospital and was kept under observation, but without a diagnosis of hip disease, for about three months. During this time he continued to limp and to complain of pain in the right hip. He was then placed in the care of the friend who recently referred him to me. For three months longer he was given internal medication of an anti-rheumatic sort, and kept more or less quiet, but the symptoms continued, and grew slowly more severe. My examination on February 23, 1923, showed: Unmistakable evidence of trouble in the right hip. The child limps badly. The limb is flexed to about half a right angle. Motion is painful and resisted in every direction. Skiagraphs taken recently at the hospital appear to me to show typical bone changes. The femoral epiphysis is somewhat rectangular, and the acetabulum appears to be involved. Weight and pulley traction instituted to overcome the deviation, relax the muscular spasm, and relieve the pain, which has been troublesome for a considerable time.

March 12, 1923. The child is brought in for renewal of the traction straps. His mother reports that he has been entirely relieved of pain and night cries since the traction was instituted. The flexion of the limb is almost entirely corrected. This case is an illustration of the error not rarely made of mistaking a true hip disease for rheumatism, and dealing with it on this basis.

I shall not attempt to go further in illustrating or discussing the numerous other disorders which have been mistaken for Hip Disease. This list might be prolonged to include the most improbable errors. Congenital Dislocation, Coxa Vara, Infantile Paralysis should not, one might fairly suppose, be mistaken for tubercular hip disease, but I have, in my own experience, seen each of these mistakes made. I recall one unfortunate young girl, with advanced Hip Disease with great deformity of position and with extensive bone destruction, who was submitted by two of my colleagues to a prolonged manipulation under general anaesthesia to reduce a supposed dislocation of the hip. I have already at the beginning of this paper indicated how the true condition can be recognized. I would add but one to the recommendations already made, and that is: "Never be cock-sure in diagnosis, and do not obstinately cling to a false diagnosis simply because you have made it."

DISCUSSION.

Dr. J. T. O'Ferrall (opening): I would like to congratulate Dr. Fenner for presenting such an excellent paper, giving the common errors in the diagnosis of hip disease. Those of us who are called upon to assist any of our fellow practitioners often see just what Dr. Fenner has presented to us in such an interesting manner.

There is little for me to add. I did not come prepared to discuss the paper. There are two common errors I have often seen diagnosed as tuberculosis of hip: (a) infectious arthritis,—which the doctor did not lay stress upon,—coming from focal infection, particularly the tonsils; the condition occurs at an age where we so frequently see diseased tonsils. Before we make up our minds it

is a tubercular hip, we should make an effort to account for all foci of infection; (b) Separation of the capital epiphysis of femur. Two or three days ago I saw a child a local physician had diagnosed as having tuberculosis of hip. Upon inquiry I found that the child had slipped out of its crib and the leg had caught in the bars of the crib. X-ray picture showed complete separation of the capital epiphysis of the femur.

I think that Dr. Fenner should be congratulated on his excellent paper.

Dr. F. R. Gomila: I would like to discuss the last case. I saw the child in the very beginning of his illness. I had made a diagnosis of some hip joint infection and had immediately sent to the hospital to Dr. Fenner's service for X-ray and proper treatment. Dr. Fenner was out of town and the case got into the hands of his assistant. The woman kept coming back to me complaining that the child was not improving any. I saw Dr. Fenner was in town and I told her to go back to see him. The case was diagnosed as tubercular hip because of family history; the father, a policeman, has tuberculosis.

There is only one point that might have put me off guard, from the history. There was an old woman living in the rear of the premises who was crippled. The child would get her stick and go hobbling along like she did, attempting to imitate her walking.

The child was complaining so and having referred it to a specialist, I could not understand why it was they could not make a definite diagnosis. I believe there would be some excuse for me not making a diagnosis, but after referring the child to a pediatrician for diagnosis and treatment, I could hardly explain why six months' treatment in their hands without making a diagnosis is excusable.

Dr. W. J. Durel: With reference to Dr. Fenner's case of hip disease where he uses the cutaneous tuberculin test. I want to ask the doctor if he used the sub-cutaneous tuberculin test in order to determine "focal" reactions about the suspected diseased area. Dr. Fenner's paper should certainly be commended by the society for one fact alone: to have impressed upon us that, to make a diagnosis of any disease one should not depend solely upon objective symptoms or X-ray findings, etc., but should check up all evidence as manifested by the objective and clinical symptoms, by the X-ray, by tuberculin, by the laboratory, etc.

This paper is worthy of commendation.

Dr. E. D. Fenner (closing): I want to thank you very much for the liberal extension of time I have been granted. I am well aware that I have only touched upon a few phases of the subject. In addition I was a little hurried in getting my paper ready. I did not expect to present it until the 26th of March, but just a week ago the chairman of the committee asked me if I could not get it ready for tonight.

There is a point I wish to make, especially in connection with the case of the child of 2½ years whose history I read last. That mistake in diagnosis, or doubt in diagnosis, is possible even where the examination has been careful. The signs and symptoms of hip disease are not peculiar to tubercular hip disease, and this is why the differentiation may be extremely difficult. The thing we have to remember is that, where we see a child between the ages of 3 and 6 years with trouble which we are sure is in the hip joint itself, tuberculosis is always probable, and we must not be satisfied with one examination. If we cannot satisfy ourselves that the disease is not tubercular, give it the benefit of the doubt, and treat it for tuberculosis.

FACTS AND FANCIES.*

By W. T. PATTON, Ph.C., M.D., F.A.C.S., New Orleans, La.

This title may seem unusual, yet it is just what I desire to talk about; a few facts and fancies in regard to the Ear, Nose and Throat conditions.

To the Ear, Nose and Throat men, I crave your indulgence, to those of you who are well informed in the working of the Ear, Nose and Throat, I request your support.

First, I want to speak about traumatic injuries of the nose, usually they are dismissed with the suggestion to apply cold compresses and a piece of adhesive plaster is placed over the bridge of the nose. Now, if these cases could be seen by a specialist at once or very early after accident, a great deal could be done; remember that in nearly all traumas of the nose, the nasal septum receives the brunt of the injury, the nasal bones may be fractured in on one side and out on the other, and a number of other forms of deformities may be produced. Simply applying compresses and putting on adhesives will not in any way prevent these deformities. The nose should be carefully examined, externally and internally, then with the proper manipulation we can often replace fractured bones, straighten septums and put up in such a way that deformities of the external nose can often be avoided, and the septum sufficiently straightened to avoid blocking of the nose when the patient recovers.

In all cases that come in with complaint of not being able to breathe through the nose, do not expect to find adenoids at fault, in fact, in very few patients after the age of 15 is the nose block due to adenoids. The most common condition is a deviated nasal septum, or possibly hypertrophic rhinitis, and with the rhinitis, there is usually an enlarged bony turbinate, or improperly placed inferior turbinate, neither condition is benefited by medication, both are surgical. The first, deviated septum, a proper sub-mucous resection of the nasal septum will soon give a wonderful result. In the second condition, we usually find the inferior turbinates protruding out from the nasal wall towards the septum, and enlarged. In these cases the simple procedure of fracturing the turbinate out and possibly

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cauterizing if there is a fleshy enlargement, will give speedy results.

Now as to headaches; don't think all the so-called headaches of nasal origin are due to sinusitis. The suppurative sinus pains are in the minority, and usually easily diagnosed. More common are the vacuum headaches, causing pain over eyes and tender spot just behind insertion of the superior oblique muscle. Then we have the headaches from hyper-plastic ethmoiditis and sphenoiditis, where you can hardly find anything abnormal in the examination; also the sphenopalatine ganglion neuralgia, radiating into the supra orbital region, then into ear and behind the ear, sometimes into shoulder, elbow and even into the fingers. These cases are relieved if the ganglion is cocaineized, and can usually be cured either by applications or alcoholic injection. The suppurative sinus trouble I will not speak of, as they are usually easily diagnosed and fully explained in all text books.

As to irrigating the nose: This is a dangerous procedure unless properly done. The patient should be careful to breathe through the mouth, thereby closing the naso pharynx, and preventing the solution from going into throat and causing cough. Never blow the nose forcibly, better draw back first, then blow both nostrils at the same time, then gently one and then the other, thus avoiding blowing secretion into the ear through the eustachian tube. This same advice holds true when bathing, and if followed would avoid many cases of otitis media. Too much douching the nose is harmful, in that the normal mucus is destroyed and the nose will become dry. Never use strong solutions; normal saline or soda solution, teaspoon to the quart, is as good as any. Douching the nose is to cleanse and get the benefit of moist heat not especially for the antiseptic effect. Irrigation should always be followed by bland oil spray.

A cold in the head lasting more than four days is usually a sinusitis, either catarrhal or suppurative and should have special treatment.

A common statement by patients is, "Dr. S. says my child has adenoids." It is hardly necessary to state here that all children have adenoids and tonsils, yet this statement is so often made, that I think the public should be educated to the fact that adenoids and tonsils are as normal to the body as heart

and lungs and other vital organs, that it is only when the adenoids and tonsils are enlarged and diseased that they cause trouble. Again, it is not the large tonsils which protrude into the throat that cause most trouble, they act chiefly by blocking; it is the small deep-seated, submerged tonsils, often pressing up and blocking the eustacian tube secreting into the tissues and poisons going into the lymphatics, that are most dangerous, yet we often have these cases come to us with the statement, "Dr. S. said the child had no tonsils." Enlarged glands along the sterno-mastoid muscle and angle jaw are usually diagnostic of absorption from the tonsils.

When should we remove the adenoids and tonsils? Preferably not before the 5th year, yet if either adenoids or tonsils are causing a great deal of trouble such as marked mouth breathing, continual head colds, earaches, discharge in ears, etc., adenoids and tonsils should come out at any age.

In any case of hoarseness, which does not clear up in about one week we should certainly have the larynx examined, for we should always be on the lookout for beginning tubercular laryngitis or some growth in the larynx.

Coughs are quite often caused by enlarged lingual tonsils or varices, and can only be relieved by special treatment. The cough following influenza or in cases that have been gassed, can often be greatly improved or cured by intratracheal injections, where all internal medication has failed.

Diphtheria is well understood by all general practitioners. I will only say to be more on the lookout for nasal diphtheria. Any case with bloody mucoid discharge from nose, should have a culture taken. All cases even with a suspicion of laryngeal diphtheria should certainly have the larynx examined, and if in doubt give antitoxin, remembering that the earlier the serum is given the lower the mortality. In laryngeal obstruction, do not wait until patient is exhausted before resorting to either intubation or tracheotomy. Delay here is often the cause of fatalities.

The ear is the special organ where we find most "Facts and Fancies." It is a fact that a great part of the acute ear conditions can be cured if seen early. It is a fact that practically none of the chronic ear conditions can be cured and few benefited. Practically all the so-called earaches are due to conges-

tion or pressure of the ear drum, should the pressure continue, caused by a fluid or gas in the middle ear, the drum will usually rupture by tissue necrosis, allowing fluid to escape in the outer ear. This rupture of the drum leaves a ragged necrotic opening in the drum, often in the part of the drum which does not give good drainage. It may take several days of suffering or only a few hours before the drum ruptures; as soon as the drum ruptures, the patient is relieved. We are often asked, as the drum will rupture, "Why incise?" The longer we wait for the drum to rupture the more damage is done to the middle ear structures, the more suffering of the patient. The opening of the drum is necrotic and often poorly placed, often leaves a permanent perforation. If we see the case early and incise the drum we have a clean incision, the patient is at once relieved, much less damage done both the middle ear and drum, and we often avoid mastoid complications; also by proper asepsis, the fluid or gas is let out and the ear may be well in a few days. It is surprising how often physicians treat earache, and then when the ear begins to discharge call a specialist. I would much rather have the family physician let us see the case with earache and that they treat the running ear, for after the drum has been incised the danger is usually over. Another fancy, the favorite ear drops are sweet oil, or green oil, both of which act only by warmth, soon become rancid and cake in the ear. Again, cocaine in aqueous solution is often given as ear drops; remember, that the external layer of ear drum is skin and the cocaine is not absorbed by skin. The only drops that are worthwhile are glycerine, either alone or better with carbolic acid, about 10%; here we have a solution that retains heat, does not solidify or become rancid, is hygroscopic, drawing fluid from the congested drum, the addition of acid carbolic makes it anesthetic and antiseptic.

The only way to tell whether a drum should be incised is to see it, unless you can get a good view of the drum where there is either a high temperature in infants, or severe pain in adult, you should certainly call in someone who can. Incising the drum is not the simple operation that some think. The infant's ear canal is very small, the posterior wall of the canal, and ear drum are very hard to differentiate, as the angle between

the two is not as acute as an adult. The blind stab is very dangerous and should never be practiced.

Patients with discharging ears are often told that as long as the pus is coming out they are all right; a discharging ear is ever a source of danger, the vital structures of hearing are constantly being bathed in pus and injured, certainly every known method should be used to stop discharge as soon as possible. Foreign bodies in ear and nose are very common. Never attempt to remove the foreign bodies with forceps, unless you can readily grasp, for you are most likely to push the foreign body further into either the ear or nose; use a blunt hook, always getting behind foreign bodies and pulling out. For insects in the ear use warm glycerine to kill, then remove with syringe. Never attempt to dig cerumen out of the ear, for unless you well understand this procedure, you will injure the canal and push wax further in; soften with glycerine several days, then with ear syringe and soda bicarbonate solution wash out.

I have only touched upon a few of the most common "Facts and Fancies" of the Ear, Nose and Throat, which we as specialists see and hear daily. I assure you that these remarks are in no way criticizing the wonderful work the general practitioner does, and only hope that they may be helpful suggestions, and that the one object which we all strive for, that is, the relief of the patient, will be the first consideration.

DISCUSSION.

Dr. E. Denegre Martin: I want to emphasize what Dr. Patton has said, especially in regard to the nose. Whenever the nose is injured sufficiently to bleed, the injury is not external but internal. These cases should always be carefully examined, the broken bone or cartilage reset, and held in position with nasal splints. Unfortunately we look as a rule too often to the appearance and neglect the greater deformity which must result in treatment later on which could be avoided if attended to at once. I have had a great deal of experience in the correction of nasal deformities. Nearly all the cases were the result of improper treatment at the time of accident.

Dr. W. T. Patton (closing): I want to thank you gentlemen for not discussing my paper, because it proves that my statements are all facts and not fancies.

CLINICAL SIGNIFICANCE OF INTERPOLATED EXTRASYSTOLES.

By LOUIS F. BISHOP, A.M., M.D., Sc.D., F.A.C.P., formerly Professor of Heart and Circulatory Diseases, Fordham University Medical College, New York City; Attending Physician, Lincoln Hospital, New York City.

While in my own mind no argument is necessary as to the clinical importance of the electrocardiogram, nevertheless an occasional concrete example of its enormous value in the interpretation of cardiac phenomena is worth while relating.

A man came to me about a year ago with a complaint of attacks of intense irregularity of the heart which were very alarming, but of short duration. This gentleman had been involved in a tremendously important undertaking involving the attempt to coordinate several competitive trusts, and he had also been the subject of most scurrilous abuse in the public press. (I mention this detail because it has a bearing upon the case.)

I was not able to observe an attack except on one occasion, when I only saw him about the termination of the seizure. At this time, as far as I can make out by the pulse and cardiac auscultation, the heart was completely irregular. I made a clinical diagnosis of attacks of auricular fibrillation of short duration. I warned him that if he did not take care of himself the condition might become permanent. At the same time I urged him to come for an electrocardiographic examination at the time of an attack. I had gone on for a number of months supposing that these attacks were auricular fibrillation and had given him continuous digitalis dosage.

One morning he came to my office with an attack. The accompanying illustration shows that the case was one simply of premature contractions originating in the left ventricle, of no importance at all as compared with fibrillation. The interesting point in this tracing is that the extra systoles are interpolated and do not interfere with the normal beat more than half the time. The clinical significance of this situation is that in reality we are dealing with a heart which has a good deal of reserve, and that when the premature contraction of the ventricle has occurred there is still enough come-back in the ventricle to respond to the normal impulse from the auricle.

This justifies us in giving a very much better promise of prolongation of life and health, because it means that the behavior of the heart is rather to be described as the response

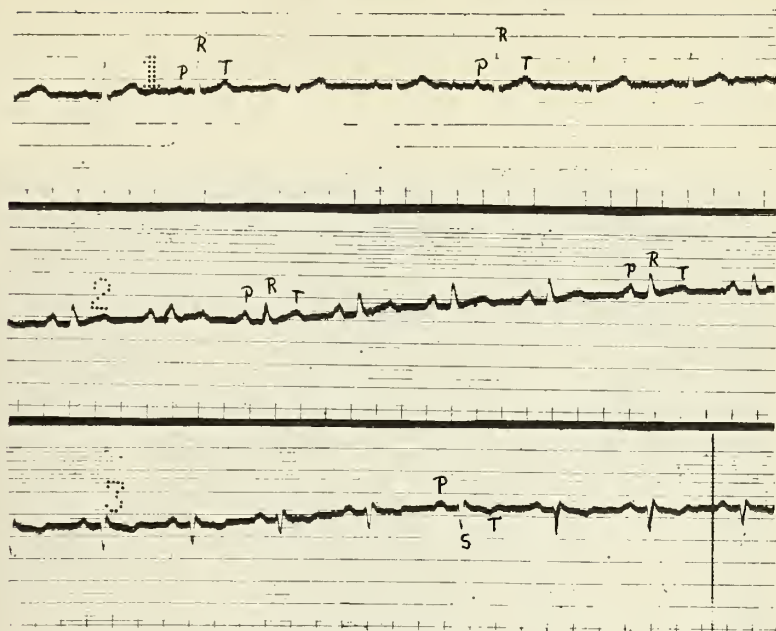


Figure 1. Record taken in the interval between attacks, showing the regularity of the heart beat.

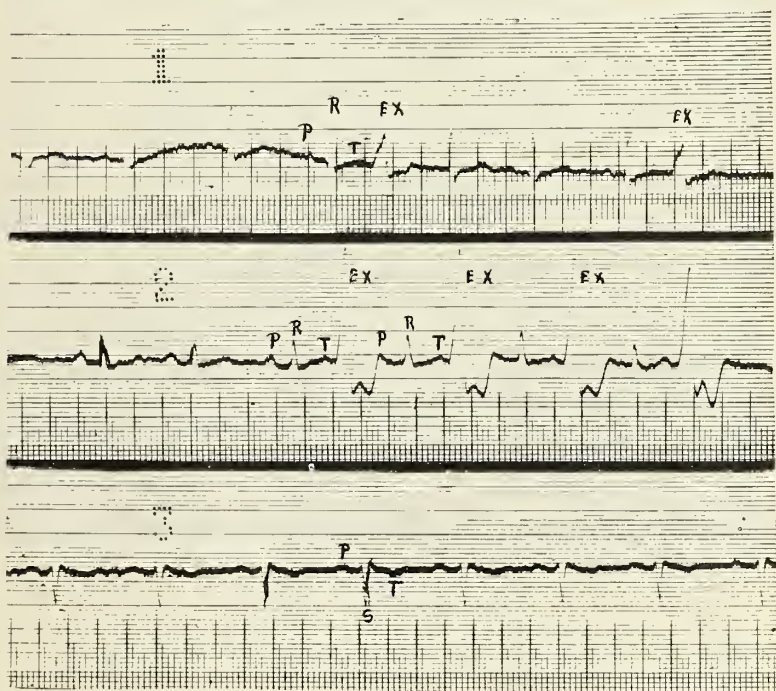


Figure 2. Record taken during the attack, showing that the irregularity is due to interpolated blutricular extra systoles. These are the large excursions indicated by E. X. It will be seen that they do not interfere with the regularity of the normal beats.

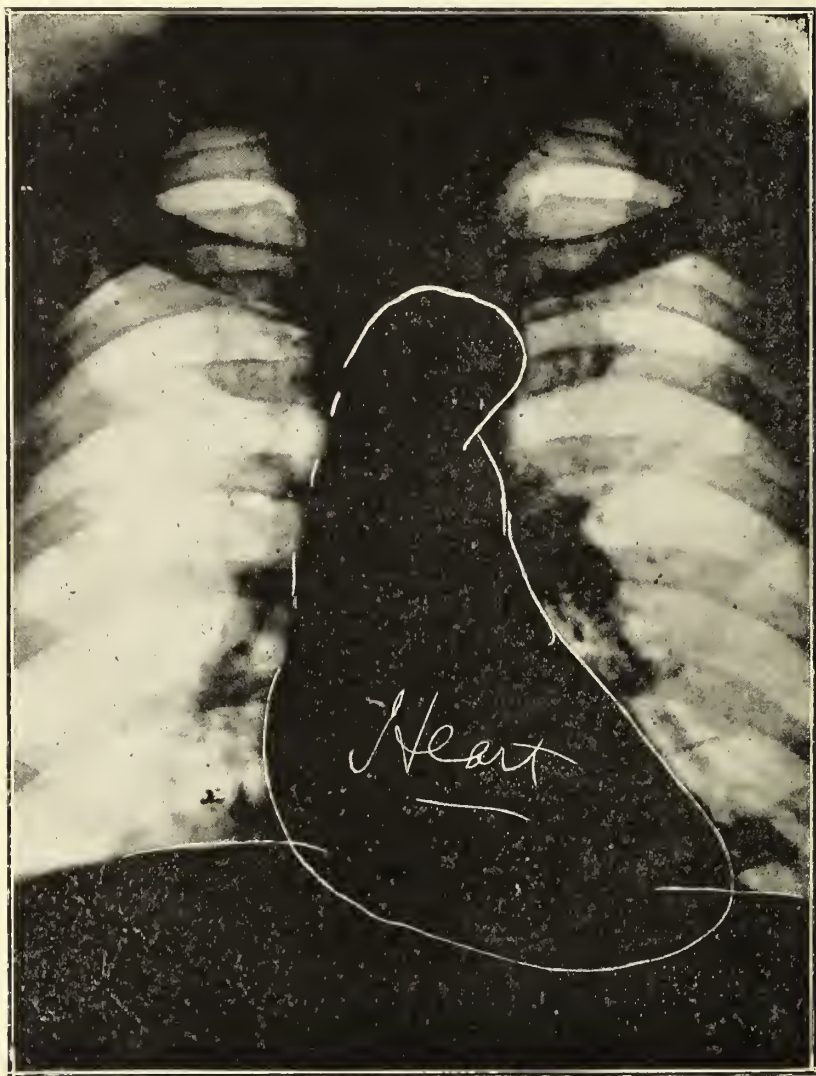


Figure 3. Orthodiagram drawn on the teleoroentgenogram, showing heart to be normal in relation to the chest, which is of unusually large size.

of a good organ to outside conditions of a very disturbing nature, than that of a reaction of a poisoned auricle which has become the seat of a trembling palsy.

The value of such positive proof of the organic integrity of a very disorderly heart, to a man of his type, can hardly be appraised in terms of dollars and cents. One experience of this kind with the electrocardiogram seems to me to justify its routine employment in many instances where the significance is not so important.

For those who are not familiar with the electrocardiogram I would point out that in this tracing the extra beat is shown by the large excursion of the line and does not interfere with the natural sequence of the normal beat. This I consider a sign of a good heart.

Another type of extra systole can be said to be of less significance than the usual type is one that occurs symmetrically I mean one that takes place regularly every second or third beat.

ANNUAL ORATOR'S ADDRESS.*

HON. BERNARD McCLOSKEY, New Orleans, La.

Mr. President, and Members of the State Medical Society:

When your distinguished President and committee called upon me to appear before an audience of experts devoted to the healing of the wounds of the afflicted and to the soothing of the last solemn moments of those who near the great beyond, I somewhat felt that probably the profession to which I have devoted my life is so closely linked to that of medicine and surgery that I could feel at home amongst you. We have at times a joint interest in those who are the object of your care and solicitation before their departure from their earthly abode and after the Church has ministered to their spiritual wants.

But after all it is the laws of God—the laws of the universe and the self-made laws of the people in the form of a Constitution of the Nation, constitutions of the various states and the laws passed thereunder which grapple all of us under their protecting wing, and point the way our great Republic is to go.

Gentlemen, it would serve no useful purpose for me to touch

*Read Before the Louisiana State Medical Society Meeting, April 24-26, 1923.

upon the profession to which you have dedicated your lives. The breadth of the investigations and researches made by you in the past quarter of a century, the scientific vision which has uplifted the science of medicine and surgery, are in line with the advancement made in this age of invention and progress.

To the layman who lives in New Orleans no discovery has done more than that which led to putting the finger, as it were, on the cause of yellow fever—a discovery that has, more than any other, tended to advance the material side of this growing city of ours. It was this scourge, this enemy of progress, that was the main reason why our population today is not double the present number. The great dread inspired by this malady shook not only the entire American continent, but also caused the European immigrant to avoid our shores as a land of pestilence. In line with the eradication of this malady the spirit of the people of New Orleans was first set to a proper pace when a sewerage and drainage system was installed, and now almost perfected. Here is the direct evidence of the cause of the decrease in the death rate of the city, and the reason why many forms of sickness have been reduced to a minimum, if not entirely prevented.

With a city in the throes of a crushed financial condition arising from a long night of confusion and oppression as a result of the war, the undertaking required financial skill of the highest quality; and it called for many millions and the backing of a determined people to assume a burden which has proven so beneficial to their health and comfort.

The old unsightly eistern, which was a hot-bed for mosquito breeding and various diseases, soon gave way before the onslaughts of the medical world, and in line with these aids in the stamping out of disease came the installation of a great water system, through the medium of which it became possible to convey clear, pure, fresh water to every nook and corner of our city. These twin enemies of disease—sewerage and drainage—are to a municipality what the digestive system is to the human organism. And in this uplifting age of the scientific world, wherein the medical profession advances with immeasurable strides, the agencies which aid in the advancement

of moral, social and political health have been willingly supplied by the people.

Mr. President, I cannot but feel that these progressive steps of sewerage, water and drainage, are the direct cause, coupled with the eradication of yellow fever, of the onward march of our city and State, not only in the elimination of disease but in a material, substantial way.

We in New Orleans are proud of another step, which, whilst it may have appeared at times as a menace from a purely medical standpoint through the introduction into our harbors of what was commonly known as the bubonic plague, endangering the municipality, State and Nation, brought about the great cry from the people to clean up the city, lift the levels of the stores and residences to a higher standing, tear out vaults and destroy all the nests and hot-beds of disease that had erected themselves upon foundations of decay and age and filth, where the elusive rat, that carrier of disease and pestilence, might thrive; all of this was indeed an aid to the higher development of the health and prosperity of the City of New Orleans. Millions were spent in this great enterprise; "Kill the rats" was the cry of the hour; "Clean up your households from this pest"—and another great step forward was taken for the benefit and in the interest of the general health of the community.

Here I must pause for a moment and direct you men of science to what these healthful steps induced—the City crying out for the commerce of the world—with the Panama Canal about to be cut and the eyes of the world upon a city which is thereby thrown infinitely closer to the Occident and the Orient and to the great and as yet undeveloped channels of trade to the south of us. The cry was broadcasted abroad that New Orleans was now a healthy city—miles of docks and sheds were erected, warehouses of great magnitude were built to house cotton, coffee, rice and sugar. Great elevators that rise to heaven proclaiming the New Age of the *New New Orleans* and the *New Louisiana*; a belt system to facilitate the transfer of commodities was erected. These great, eloquent evidences of our commercial greatness as a harbor, these signs of material advancement have reached such proportions that we now proudly boast of the Second Harbor in a continent with one hundred

million souls; and all these are but the standing evidences of the aid of you men of science have rendered the City, State and Nation by the eradication of disease and the consequent purification of the health conditions of the entire Nation, and if at times you run parallel with the State, acting through its agencies, the Dock, Health and other Boards, I cannot but feel that such instrumentalities as the City and State Board of Health have pointed the way where by proper sanitary methods we could invite the commerce of the world—the people of the world—to come to New Orleans, to come to New Louisiana.

Here at the foot of the richest valley the world has ever known, where the earth is pouring out its infinite wealth only to be gathered by those who reside on the banks of the mighty Mississippi, here is a people now set free from disease and pestilence, with progress in every direction and peace, the harbinger of happiness, around us. May I not say again what someone has said before—that “the eagle does not build its own nest.” Every bird of the plain and the woods contributes something to the building up of the eagle’s nest. Some bring cinnamon, some bring juniper; others bring things of lesser or greater value; so that this organization, in its deliberation and comprehensive breadth of scope, is bringing something to build up this great nest of prosperity, health and happiness. Every land and every clime hath contributed to build that Eagle’s nest—America. And the commerce of the world now lying at our door is bringing that message of prosperity which is the forerunner of a great City and State.

But I cannot at this moment pass on without stopping to point a disapproving finger at the attitude of the State for seventy-five years toward the Charity Hospital. Here is the great center where the students of medicine and surgery all over this State can find object lessons to aid them in the furtherance of their studies. The State has doubled in population since and the one single building that can be placed to its credit in this field of endeavor is solely up to the general charitable and humane people of Louisiana to maintain. To the credit of the lawyer I cannot but direct to your attention the profession of the law as represented by our distinguished ex-Chief Justice Breaux, who has not only contributed ten

thousand dollars to that humane institution but erected a building and aided it otherwise.

The groans of the afflicted appeal to heaven—appeal to the people of this City and State for aid; and you, my distinguished co-brethren of a profession which directly touches the question before the people have aided, no doubt, and will undoubtedly aid, individually and collectively, in the solution of the problem.

No funds have been set aside for that purpose. Is it not time that Louisiana should wake up? Is it not time that some way should be found to eke from out the State purse the wherewithal of the problem's solution—a problem that now reflects very materially on our statesmanship? I know that the State during the present administration is unable to aid. The Legislature has spoken and has said so. It has therefore fallen upon the charitableness of the people. New buildings are needed, and everything else that is necessary to relieve an overcrowded condition.

Mr. President, the well-being of the individual only ranks the well-being of the body politic. Diseases creep into the Nation founded by the Fathers of the Republic that are not purely of a physical character. The Constitution of the United States is not read enough by some Americans. The corner stone upon which the Republic is built is being threatened with removal. It stands with the principle, "Equality before the law," and "Freedom of speech and religion." No state religion can find room in our midst. Protection to life and property within the law as written is the basis of our national life. In the treatment of disease you are guided by elementary principles. The pulse of your patient is felt, the beat of the heart is listened to, the blood examined. You inquire into the condition of the kidneys, and ascertain the state of the various organs. How does the liver act? you ask yourselves. And so should it be with this great body politic, the nation itself. Let us be on guard and by the pulse of the American Nation ascertain if the beat runs true to the elementary principles of our Republic—if there moves through the heart of the nation the blood which is tinctured with the spirit of Patrick Henry.

There are no strange, unhealthful "isms" worming themselves into the Nation which cannot be expelled by a mild laxative in the shape of the light of day. And even as you have cured the diseases of mankind by your great skill and knowledge, so can you aid in the elimination of the diseases of the body politic which would eat into the Government of the Nation, State and City, which you have sworn to uphold.

The nations have fallen, but thou still art young,
Thy star is but rising whilst others have set,
And though slavery's cloud round thy morning hath hung,
The full moon of Freedom shall beam o'er thee yet.
Gentlemen, I thank you.

ADDRESS OF THE PRESIDENT.*

DR. PAUL J. GELPI.

On a quiet and peaceful evening, not long ago, as I sat comfortably in a large arm chair pondering over things medical in general and this convention in particular, I fell asleep. I had a wonderful dream. It was not of sweet smelling flowers, nor of concord of sweet sounds, nor even of fair maidens. But I was carried back into vistas of the past. Lo! and behold there flitted before me the shades of men who have left foot-prints on the shades of time. I saw the distinguished form of Thomas Hunt and the huge and rugged Warren Stone; then came that man of genius, C. A. Luzenburg, to whose indefatigable efforts the Medico-Chirurgical Society was formed, known for its brilliant meetings and said to have furnished the spirit that started the New Orleans Medical and Surgical Journal. Then came many others, among whom I distinguished the cameo face of Charles Faget and Smyth and many others who have contributed to make medical history in Louisiana. There was Joseph Holt of quarantine fame, that prolific writer Joseph Jones; Chaille, the peerless teacher; that man of refinement and culture, Bemis, and Richardson, noted educator and recognized as the most influential founder of State and Parish Societies. There was also the noted surgeon and benefactor, Miles, and Dyer, far-famed for his study on leprosy and for his culture. And so the procession marched on, but the pictures seemed to fade and I could only distinguish the silhouettes of distinguished colleagues, some of whom are no

*Read Before the Louisiana State Medical Society Meeting, April 24-26, 1923.

doubt with us tonight. Suddenly I found myself awake and the thought occurred to me that I would speak of some of the achievements of organized medicine in Louisiana, that the men of my dreams have so much contributed to realize.

It is pertinent to the subject to mention a few historical facts. The Medico-Chirurgical Society was founded in 1843, with Dr. Luzenburg as its first president, and the following year, through the efforts of this indefatigable leader the New Orleans Medical and Surgical Journal was founded.

It is also of a special interest to note, that in May, 1848, the Attakapas Medical Society summoned the physicians of Louisiana to meet in New Orleans in March, 1849. The Physico-Medical Society of New Orleans rose to the occasion and enlisted its aid for the organization of the State Medical Association. This was finally accomplished December, 1849, and Dr. Hale of Alexandria was elected president. The life of the organization was short, for after only six annual sessions from 1851-1856, it passed out of existence. It was not until 1878 that another attempt to organize a Medical Association was made. This time it was the Plaquemines Medical Society that sent out an invitation to the physicians of Louisiana to meet in New Orleans and on January 14th, 1878, a convention was held which gave birth to the present Louisiana State Medical Society, which was incorporated in 1903.

Dr. S. M. Bemis at that time expressed the objects of the Medical organization to be "to disseminate and usefully apply medical knowledge, more effectually to promote fraternal feeling, better to insure harmony of action, and exalt and maintain the dignity of the profession." In our articles of incorporation, we have maintained the spirit and principles above expressed and we have broadened the scope of our works by pledging ourselves to "the enforcement of just medical laws, to the elevation of the standard of medical education, to the enlightenment and direction of public opinion in regard to the great problems of state medicine and promoting our usefulness to the public, not only in the prevention and cure of disease but also in the prolonging and adding to the comfort of life. Has the medical organization of the State lived up to these ideals? Has it carried out the aims for which it was created? The answer to this is to be found in our rich and

voluminous archives. Our records show conclusively that medical organization and medical education have always been together in the vanguard of medical progress. The men who have been leaders in our profession and who have attained distinction either as teachers, sanitarians, physicians or surgeons were active in medical organization. In fact no one will gainsay that to many even in our time it has been a stepping stone to a successful career and distinction and honor.

Since the beginning of the present century the Louisiana State Medical has become closely affiliated with the Great National Association and has bent its efforts to co-operate with, upbuild and strengthen it. Today the American Medical Association is really composed of the State Associations which in turn are formed of all parish or country societies organized in the State, so that fellowship in the National body is contingent on membership in state and parish societies. Some critics have seen fit to see in this arrangement a doctors' trust. If the promotion of medical culture and education, the upholding of the dignity of the profession, the encouragement of scientific research, the exposure of charlatans and false isms and the preservation of our ideals constitute a trust, then we are ready to plead guilty. May such trust thrive forever in every field of human endeavor.

The medical profession has always been known for its altruism and whatever of the mercenary has crept in the functions of the doctor, has been due to the attitude of the public towards the physician. However, the physician of today continues to serve to the best of his power saint or degenerate, white or black, poor or rich. But he is often abused not only as far as remuneration is concerned, but also in the impositions practiced on him where his services are intended for the poor. Threats and unjustifiable law suits are employed against him which usually amount to methods of blackmail. It is for just such contingencies that the Louisiana State Medical Society has provided medical defense for its members, which not only means their protection with high-class legal talent but the full moral support of all its membership.

An important function of a state society is to furnish to its members a medium for interchange of ideas, bringing in closer touch the component societies, and the publication of scientific

work and proceedings of hospitals. The dissemination of medical knowledge excites greater interest in scientific matters and is an incentive to better scientific work. The best medium for this is an official journal. For these reasons the Louisiana State Medical Society has this year provided such facilities to its members by acquiring the New Orleans Medical and Surgical Journal. This publication has had a most wonderful career of nearly eighty years during which period it has been published without interruption. The student of medical history will find it a storehouse of knowledge and of the traditions of the profession in Louisiana. Of special interest is the fact that beginning with "Journal de la Societe Medicale de la Nouvelle Orleans," published in 1839, by Fortier, Daret and others, there have been sixteen medical publications published in our State to the present time and that of all these the New Orleans Medical and Surgical Journal is the only one that has survived the "slings and arrows of outrageous fortune." It is gratifying therefore that the perpetuation of this honored publication is assured, which must ever remain to the praise and pride of the organized profession of Louisiana.

The Louisiana State Medical Society has not failed in its duty to the public. It informs it regarding new ideas emanating from medical progress and strives to remove the deep-rooted prejudices against innovations and shows them the true light by pointing out to them the evil and the false. It is ever exercising vigilance so as to prevent the enactment of obnoxious medical laws and is ever endeavoring to protect the public from impostors and false medical doctrines. This has been accomplished by having passed by the Legislature a medical law creating a board of medical examiners. This law has been so strengthened that it is today considered one of the best in the United States and the laws of many states have been patterned after it. In order that men of the highest type only and of impeachable character compose this board the law requires that the governor of the State can only appoint physicians recommended by the state medical body. They issue licenses to those who pass satisfactory examinations and it is worthy of note that even the graduates of our own schools are subject to examination. It is their duty to see that no illegal practitioners and charlatans operate in the state and prosecute those who

are guilty of any criminal offense; thus is the public safeguarded, the cause of medical education advanced and the high standard of the profession maintained. Great credit is due to the present members of this board for the great efficiency displayed during the year, but we must not forget to also give due credit to the whole profession of Louisiana who maintained this board at their own expense, because the state has not made us provisions for maintenance.

These are some of the accomplishments of the Louisiana State Medical Society. There are still some great problems for it to unravel, and serious efforts are being directed to this end. I feel sure that within a short lapse of time there will be some other achievements to the credit of organized medicine.

If we are to continue to realize the benefits of medical organization it is necessary that we keep ever before us the lofty aims and high ideals of the medical profession. The golden rule of "Live and let live" must be adhered to and the divine precept of "love thy brother as thyself" must be observed. The spirit of co-operation and reciprocity should be our guiding star and we should be imbued with the thoughts and sentiments so vividly expressed by the pen of our esteemed colleague, Dr. Homer Dupuy, when he describes the medical parasite. It is true that we are not all gifted with originality and have neither the talent nor the inclination to write scientific papers, but we can all demonstrate our interest in medical matters by our presence at medical meetings, and joining in the discussions. In this manner we can increase interest in medical organization and stimulate our confreres to greater achievement. It was that staunch American, the peerless hero who even braved pestilence when it was raging in our midst, the brave and courageous Theodore Roosevelt, who has penned these truthful words: "Every man holds some of his time to the upbuilding of his profession." These words have a true ring and should sink deep into our hearts and we should bear in mind that medical organization is the avenue opened to every medical man who wishes to live up to this precept. He who fails to avail himself of this opportunity must needs be numbered among the laggards and parasites.

REPORT OF THE PRESIDENT TO THE HOUSE OF DELEGATES, 1923.*

New Orleans, La., April 14, 1923.

In compliance with a custom as old as our Society itself, it is my privilege to present to you a resumé of my activities during the past year. When, a year ago, you entrusted to my hands the destinies of your organization and charged me to guard its interests, you at the same time instilled the firm resolve to do all in my power to justify your expectations. At different periods of my administration I was called upon to make important decisions and at times had to use my own initiative and judgment. If in the execution of this task, you find any shortcomings, rest assured that good will and the heart were always there.

There were three meetings of the executive committee during the year. It is my purpose to dwell only on what I consider the most salient matters given consideration.

The first meeting was held May 26th, 1922. Special attention was given to matters coming up at the next Legislature. The question of acquiring an official Journal for our Society was favorably disposed of and the appointment of a Journal Committee was delegated to the president. A communication from Dr. C. A. Weiss of Baton Rouge regarding the care of indigent doctors was favorably acted upon and a committee headed by Dr. Weiss was authorized.

The second meeting was held October 14th, 1922. The question as to whether the officers and members of our Society would be liable or held responsible for a suit which might be brought against the Journal was discussed and submitted to our attorney for an opinion. The failure of the Arrangement Committee of the Alexandria meeting, to turn into the State Society treasury the surplus fund accruing from that meeting was discussed and the conclusion reached was that it was an oversight on their part.

The third meeting took place March 17th, 1923. Among the various questions considered were: the postponement of the annual meeting and the report of the president on the foundation of a home for disabled and incapacitated doctors. The

*Read Before the House of Delegates, Louisiana State Medical Society Meeting, April 24, 1923.

Executive Committee passed a motion "That the House of Delegates take action this year on the matter of the Home for Disabled and Incapacitated Physicians and endorse the action of the president." The Executive Committee gave the following interpretation of the charter and by-laws as to representation of district societies in this body: "That the district medical societies should be allowed one delegate to the House of Delegates." The opinion of our attorney regarding the status of the Journal was also taken up.

Legislation: Your committee on Public Policy and Legislation should be commended. Its efforts in the Legislature were crowned with success, with only one exception.

The Chiropractic Bill was defeated in committee by unanimous vote. This is evidence of the fact that our legislators are willing to be enlightened and guided by facts, which our profession should be prepared to furnish when occasion arises.

The bill prohibiting vivisection on dogs failed in committee and thus a terrible blow to medical progress was averted.

The Shepard-Towner bill with its paternalistic and socialistic features was defeated in the Senate.

In spite of the strong arguments presented, the Simon bill exempting physicians from the occupational tax failed in committee by a close vote. In this connection I wish to state that provisions have been made for this exemption in the revenue bill but unfortunately the measure never came to a vote.

The Charity Hospital Board requested me as your chief executive to be one of those to address the Legislature to increase appropriation for that institution. I am pleased to state that the response was favorable and commensurate with the funds available for such purposes.

I cannot dismiss this subject without a special expression of thanks and gratitude for the kind consideration received at the hands of our legislators. Deserving of particular mention are Senator Doussan, Prowell and Davey, and Representatives Weinman, Dreyfus, Brainard, DiPaoli, Leclere, Barrow and Jourdan, who exerted every effort to assist us in our legislative campaign.

The Journal: At the first meeting of our Executive Committee the A. M. A. Committee of Arrangements offered through Dr. A. E. Fortier, to transfer the title of the New Orleans

Medical and Surgical Journal to the Louisiana State Medical Society. The sum of \$3,000.00 had been paid on account. You should be thoroughly acquainted with the circumstances attending the purchase and organization of our official journal. I therefore quote from my report on the subject made to the Executive Committee a few months ago: "On May 6th, 1922, in executive session you decided to purchase the New Orleans Medical and Surgical Journal on the conditions offered by the Committee of Arrangements of the American Medical Association, 1920, with the understanding that the Louisiana State Medical Society would pay a balance of \$2,000.00 still due on the purchase price. With your authorization I accordingly completed the deal by giving to the owners three notes for \$666.66, \$666.66 and \$666.68, payable in one, two and three years, respectively.

You further authorized me to appoint a committee to organize the Journal as the organ of the State Medical Society with a view of publishing the July issue, which is the first number of the next volume. It was with a great deal of solicitude and trepidation that I undertook this task. In doing so I have tried to keep the interests of the Society foremost and selected such men as had shown much activity in medical matters generally and who especially displayed a deep interest in the question of a Journal owned and operated by our State Society. I therefore appointed the following members: Drs. Chas. Chassaignac, Homer Dupuy, Albert E. Fossier, J. W. Newman, Thodore J. Dimitry and G. M. G. Stafford of Alexandria. They all eagerly accepted the appointments and proceeded with the work of organization without delay. In order to conform with the charter of the New Orleans Medical and Surgical Journal, our Secretary-Treasurer, Dr. P. T. Talbot and myself issued proxies of the stock to the members of the Committee.

Their first meeting took place May 15th, at which time I took the opportunity to inform them that the Executive Committee had decided 'that the receipts and expenditures incident to the Journal, in fact all funds and responsibilities of the Journal, be kept distinct and apart from the general fund of the Society.' Dr. Chassaignac was chosen president; Dr. A. E. Fossier, vice-president, and Dr. T. J. Dimitry the sec-

retary-treasurer. It was the sense of the meeting that the operations of the *Journal* should be according to the original charter.

Another meeting was held at which I informed the committee that I had taken up, by telegraph, with the president of the Mississippi State Medical Association, the question of their adopting our *Journal* as their official organ and that I had further delegated Dr. Dowling, who expected to attend the meeting, to take up the matter in our behalf. I beg to state here that in view of no developments, I have again recently taken this matter up with the new president of the Mississippi State Medical Society, Dr. Johnson.

The next meeting of the committee took place May 20th, several questions were then taken up, chief among which was the selecting of an editorial staff who would function independently of the *Journal* Committee. Some fifty names were submitted and after much deliberation the following were selected :

Dr. Hamilton P. Jones,	Dr. Oscar Dowling,
Dr. John T. Halsey,	Dr. John Callan,
Dr. J. Birney Guthrie,	Dr. Marcus Feingold,
Dr. L. R. DeBuys,	Dr. Ralph Hopkins,
Dr. Elizabeth Bass,	Dr. Amedee Granger,
Dr. John A. Lanford,	Dr. S. Chaille Jamison,
Dr. Urban Maes,	Dr. H. W. E. Walther,
Dr. Isidore Cohn,	Dr. Frank J. Chalaron.
Dr. E. L. Leckert,	

It was decided that a meeting should be called for June 16th, for the organization of the editorial staff. At this meeting it was determined that there would be one editor-in-chief. The name of Dr. Chassaignac was first proposed but he declined the nomination. Then Dr. J. T. Halsey was nominated, he likewise declined, and also Dr. Urban Maes. The name of Dr. Maurice J. Gelpi was then proposed and the nomination was unanimous.

A motion was offered and carried that in addition to the editor-in-chief there should be four departmental editors and accordingly the following were named: Dr. Maes for Surgery; Dr. Hamilton P. Jones for Medicine; Dr. John A. Lan-

ford for Laboratories, and Dr. Ralph Hopkins for the Specialist.

The editorial staff has had in mind, for some time, the appointment of district collaborators and as appears in the last issue of the Journal, the staff of collaborators is comprised of Drs. C. M. Horton, Franklin, (Third District); Louis Abramson, Shreveport, (Fourth District); C. H. Moseley, Monroe, (Fifth District); C. A. Weiss, Baton Rouge, (Sixth District); Dr. J. D. Tuten, Lake Charles, (Seventh District), and Dr. M. H. Foster, Alexandria, (Eighth District).

From the close dates of the above meetings you will appreciate that we had to work fast, and after the Journal was well under operation I took occasion to confer with our attorney regarding the future management of the Journal. He informed me that we were now in a position to disregard the original charter of the New Orleans Medical and Surgical Journal and to operate same in any manner we chose, as by signing the promissory notes we came into complete possession of the Journal. He further informed me that we could change the name of the Journal without issuing a new charter.

I beg to say that I have taken a deep interest in our Journal and that I have attended every meeting but one since we have taken possession. From my observation the system we have adopted appears satisfactory and I feel that the divorcement of its management from the other activities of this Society has proven a very wise step. I would, therefore, recommend that for the present at least matters be left alone unless there be some matter of detail which can be advanced for the benefit of our publication. In regard to a change of name, whether it will be the sense of the Society that it should be changed to that of the Louisiana Clinics or the Journal of the Louisiana State Medical Society, I would suggest that this be left in abeyance until the present volume is completed. From present indications it appears that the revenues from the Journal may be sufficient to take up our first note next May."

Some criticism has been directed at the Journal and it was even prophesied that financially it would hardly prove a success. From the report of your board of directors you will learn that such is not the case as we have already paid the first note with interest and are prepared to pay interest on the

other notes. A healthy balance will still remain. I wish to commend the excellent work of the board of the Journal, under the guidance of Dr. Chas. Chassaignac they have labored assiduously, have used excellent judgment in their various transactions and have made a financial success of our new venture. I wish to thank them one and all for their whole-hearted support. I believe that our editorial board has done very creditable work especially when we consider their inexperience in this line of endeavor. The last three numbers, at least, are a credit to our Society, and I wish to express to them my gratitude for the time and labor expended to maintain the standard of the Journal.

It has been suggested that we change the name of the Journal. Permit me in this connection to recall the fact that the Journal has behind it an honorable career of eighty years and is the storehouse of the traditions of the medical profession of Louisiana. The name New Orleans Medical and Surgical Journal is a great asset. This should receive your serious consideration if you contemplate a change of name.

It was my privilege to attend meetings of the Lafourche Valley Medical Society, the Sixth District Medical Society, the Seventh District Medical Society, the Mississippi Valley Medical Society, and the St. Tammany Medical Society. It was my desire to attend meetings in other sections of the state, but I was prevented from doing so on account of my frequent visits to the Legislature and other circumstances beyond my control. I was deeply impressed by the excellent work being done by group societies. These organizations bring together a large number of men, promote scientific work and discussion, foster good fellowship among the physicians of neighboring parishes, and add strength and vigor to our State Society. They deserve our emphatic endorsement and hearty encouragement.

Foundation of a Home for Indigent and Incapacitated Physicians. On the occasion of my installation as president last April and following a conversation with Dr. C. A. Weiss of Baton Rouge, I thought it an opportune time to suggest the erection of a Home for Indigent and Incapacitated Physicians in our southern country. In the course of my address I proposed the idea and it was received with enthusiastic applause. A communication from Dr. Weiss on the subject was endorsed

by you and on your authorization I appointed a committee for the care of indigent doctors, to-wit: Dr. C. A. Weiss, chairman; Dr. J. E. Knighton, and Dr. Isidore Cohn.

Since that time I have spoken to many doctors in the State regarding the home and they all favored the plan. We have now in Louisiana several doctors who would gratefully receive such help as such an institution would offer. No doubt similar conditions exist in other southern states.

The home should be for doctors of the south because of our common aims and ideals and of climatic conditions and congenial atmosphere.

Imbued with such thoughts, when called to speak at the conference of presidents of State Medical Societies and State Health Officers at the Chattanooga meeting of the Southern Medical Association, I suggested the idea of the home, which received a warm reception. It was my privilege to appear before the council of the Southern Medical Association, and it was a source of great pleasure to learn that a vote of approval had been given to the proposition after my departure. I feel much indebted to Dr. Knighton for the assistance he gave me in the matter. The idea has been given momentum and it is up to you to determine whether it should be carried through.

I want to express my sincere thanks to your Executive Committee for the invaluable aid and staunch support which they gave so freely on all occasions. They displayed unflagging interest in the affairs of our society, and deserve especial commendation for their faithful attendance at meeting and their earnest co-operation. I owe them a debt of gratitude.

I wish to thank the secretary-treasurer and the personnel of his office for the diligent discharge of their duty and their co-operation. Their task at times was strenuous and the rapidity and efficiency with which they performed the extra work entailed by the change of the meeting dates deserve special praise. The resignation of our assistant secretary, Miss Dolly Dillon, was a loss to the society. While it is true that she rendered splendid service to our organization, I am convinced from the evidence of good will and application displayed by her successor, that her absence will prove only a temporary loss.

In conclusion I beg to submit to your consideration the following resolutions:

Journal: In accordance with the opinion of your attorney a Journal committee should be appointed with full power to direct the affairs of the Journal. They should be under the jurisdiction of the *Executive Committee*, and make an annual report to the House of Delegates. The affairs of the Journal should be conducted separately from the routine affairs of the society as originally planned by your executive committee. I would further recommend an *overlapping* term for the personnel of this committee.

Scientific Program: Complaint has reached me both by letter and verbally that the present method of selecting the essayists for the different sections is unfair and unjust. The point is made, and justly so, that the *names* of some *members* appear on the *official program* from *year to year*. I would recommend that at the time of their appointment the chairman of sections be instructed to give preference to those who had not read the previous year.

Credit Bureau: Some of us are paying a large percentage for the collection of fees justly due us to outside credit organizations. Why should these collections not be made through the agency of the State Society? Such a plan would redound to the mutual benefit of membership and Society. I therefore recommend that a committee of three be appointed to study the subject and ascertain whether it is feasible. This committee to report at the next annual meeting.

Hospital Abuse: The question of hospital abuse is receiving the attention of physicians in this section and elsewhere. The benefits provided for the poor are wantonly and increasingly abused and deliberate impositions are heaped on the medical profession. I recommend that the Hospital Abuse Committee be instructed to get together with similar committees of the Orleans Parish Medical Society and Charity Hospital Staff with a view of taking complete survey of the situation and prepare suitable laws to CORRECT the EVIL NOW for enactment at the next Legislature.

Districting of the A. M. A.: I must not fail to acquaint you with an incident which occurred at the Chattanooga meeting of the Southern Medical Association which I deem of great con-

cern to medical organization in the South. At the conference of state presidents and health officers already referred to, the question of districting the territory of the American Medical Association was taken up and the resolution to be presented to the National House of Delegates for final action at the June meeting was discussed by all present. By virtue of this resolution the states comprising the Southern Medical Association would be grouped into districts and would have fall meetings followed in the spring by a general meeting of the national association as at present. At first blush this appears innocent enough but as a matter of fact, it means the disruption of the great Southern Medical Association which is a wonderful organization and the pride of the South. It was admitted by one of the officials of the A. M. A. who sat in this conference that the dismemberment of the Southern Medical was virtually contemplated by this new departure. I would therefore request you to endorse the action of the Chattanooga conference by passing a *resolution absolutely condemning such action by the national body and instructing our delegates to cast their vote against the measure.*

Home for Indigent and Incapacitated Physicians: I recommend the appointment of a committee of three with a view to the further study of the question of a Home for Indigent and Incapacitated Physicians in the South, and taking up the matter with the Southern Medical Association.

Memorial to Dr. Walter Reid: It would be a fitting climax to our labors that a committee be appointed to devise plans for the erection of a monument to that fearless hero and scientist, Dr. Walter Reid, who sacrificed his life for the sacred cause of medical science. The most logical place for a monument of this character is New Orleans, the gateway to the Gulf, and the second greatest port of the United States. All Louisiana will gladly join in this laudable movement, because of all the states, she has benefited most from the wonderful discoveries regarding the transmission and prevention of yellow fever. I feel sure that you will all cheerfully lend your efforts to the erection of a memorial that time and the elements will not efface commemorating the epochal achievements of Walter Reid.

REPORT OF THE COMMITTEE ON THE PRESIDENT'S REPORT.

After a careful reading and due consideration of the recommendations incorporated in the excellent report of the President we offer the following suggestions:

1. *Be It Resolved*, That the House of Delegates in session extend the deepest thanks for, and sincerest appreciation of, the efforts of our friends in the last Legislature who so materially assisted us in our endeavors to revoke the Doctors' License Tax.

2. We suggest that the thanks of this Society be extended to the Board of Directors and Editorial Staff of the New Orleans Medical and Surgical Journal for the endeavors displayed by the members in behalf of the Journal under very trying circumstances.

3. We agree with the President that there be no change in the name of our Journal, but we believe that those words referring to the Louisiana State Medical Society on the cover page of the Journal be more prominently displayed.

4. We feel that the President's commendation of the Executive Committee for their interest, attendance and earnest co-operation deserve the sincere thanks of this body.

This same commendation applies to the Secretary and to the personnel of his office.

4½. We heartily approve of the recommendation regarding the Home for the Indigent and Incapacitated Physicians, and we recommend that a representative of this Society be officially appointed by the President who will appear before the Southern Medical Association to discuss the "ways and means" of bringing about the realization of this recommendation.

5. We recommend that in accordance with the opinion of the Attorney of this Society and as further recommended by the President that the following resolution be adopted:

Be It Resolved, By the House of Delegates of the Louisiana State Medical Society that the entire control and management of our Journal shall be vested finally in the Executive Committee of this Society.

Be It Further Resolved, That the Executive Committee is hereby authorized and instructed for purposes of administra-

tion to appoint a Journal Committee whose function it shall be to conduct the business of the Journal separately from the routine affairs of the Society.

Be It Further Resolved, That in the appointment of this Journal Committee that it be so arranged that the terms of office of its members shall be of different periods so as to provide for overlapping in the membership of this Committee.

5½. We recommend that the report of the Committee of the Editorial Staff, New Orleans Medical and Surgical Journal so replete, with practical suggestions for the improvement of the Journal, be referred to the Executive Committee and to the Journal Committee.

6. *Be It Further Resolved*, That the Hospital Abuse Committee be requested to get together with similar committees of the various Parish Medical Societies and Hospitals of this State to the end of formulating laws to correct Hospital Abuse.

Be It Further Resolved, That when concrete plans have been reached and adopted by this Committee that co-operation and consultation with purpose of formulating and introducing such laws as will correct Hospital Abuse.

7. Relative to the Scientific Program and the recommendation that in the reading of papers the Chairman of the various sections be instructed to give preference to "those who had not read the previous year"; we recommend that this matter be referred to the Committee on Scientific Essays for their consideration.

7½. We heartily endorse the recommendation that a monument be erected to the hero and scientist, Dr. Walter Reid. In order to carry out this project we recommend that a special committee be appointed for the purpose of securing funds with which to erect the Walter Reid Monument. We further recommend that this Committee make every effort by persuasion and otherwise to have this monument erected in the City of New Orleans.

8. As regards the REDISTRICTING OF THE A. M. A. we offer the following resolutions:

Be It Resolved, That the House of Delegates of the Louisiana State Medical Society endorse the action of the Southern Medical Association at its Chattanooga Conference in 1922 in

absolutely condemning the action of the National Body, seeking a districting of the territory of the American Medical Association which would seriously interfere with the fall meetings of the Southern Medical.

Be It Further Resolved, That should such a measure, relating to the redistricting of the A. M. A. be presented at a meeting of its House of Delegates, our Delegates to the A. M. A. are hereby instructed to cast their vote against this measure.

HOMER DUPUY,
W. H. SEEMAN,
W. G. OWEN,

Committee.

THE CHARITY HOSPITAL OF LOUISIANA.

By ALBERT E. FOSSIER, A.M., M.D.*

(Continued from Last Issue)

Little did Jean Louis in his wildest flight of fancy ever dream that this village built on a low, insalubrious swamp, infested with mosquitoes, and subject to periodical inundations, would become a great city, a metropolis whose influence, commerce and culture would radiate to the remotest parts of the world; and that from his small bequest, a modest hospital, would have as its offspring this great institution, the pride of Louisiana, the Charity Hospital.

Nothing today is known about the medical management of this hospital. Apparently the professional men played but a small part in the life of that charitable institution. The names of the physicians and surgeons who administered to these diseased unfortunates during the forty years of the existence of the Hospice des Pauvres are lost to us, there is no record that has escaped the ravages of time and no historian has perpetuated the names of these altruistic workers in behalf of suffering humanity. In fact, Alcée Fortier in an annual address at the Commencement of the Medical Department, Tulane University, in the year 1905, said: "During the Spanish Domination no mention is made of physicians in our history." This distinguished historian also in the same discourse laid special emphasis on the fact that "in 1737 the sailor, Jean Louis', Hospital had been established and was the beginning of our present noble Charity Hospital."

Don Andreas de Almonester y Roxas, a pecunious old noble gentleman, who previously had been a war clerk and a civil notary, impelled by the suffering and destitution of the colonists, generously offered to rebuild the hospital at his own expense, and to appropriate a yearly sum for its support. He offered the magnificent amount of \$114,000.00. Strange to say, such a liberal gift was conditioned on the using of the salvage material from the destroyed building. This peculiar restriction, so inconsistent with such generous endowment, only increased the astounding opposition to the acceptance of the gift by members of the Cabildo, and despite so much suffering and the dire necessity for such an institution, it provoked harsh, humiliating and unjust ridicule. Governor Miro, in

defense of Don Almonester, spoke as follows: "Indeed this provision of Don Almonester cannot furnish much assistance to his costly undertaking; but why all this astonishment at the disposal he has thought proper to make of this building material? And why should this worthy alms-giver be looked upon in so questionable a light? If, at the time when the building was still standing, some one would have offered to build an annex to it, would any objection have been made, had one of its walls looking on the improved side been utilized in the same construction? Be it what it may, I cannot view him in any other light than that of a fellow citizen bent on performing a charitable work; and a public benefactor worthy of the highest praise, so much the more as he comes forth, holding out a most lavish offering for the reconstruction of the hospital. It is not less surprising that you should have taken this matter in hand at the very time when unexpected assistance is being tendered from other quarters, and which might be withdrawn, were I to acquiesce in your pretensions to have this worthy gentleman appear before you, and beg your leave for the accomplishment of a work of public utility."

It was not until the year 1782 that King Charles III of Spain gave his consent to the building of the hospital. In that same year, on the same site, ground was broken for the new Hospital of St. Charles. In 1784 a commodious substantial brick edifice rose from the ruins of the original hospital of Jean Louis.

The dedication ceremonies of the "*Hopital Saint Charles*" is best described in a letter addressed to the Baron de Carondelet by Don Almonester dated January 17th, 1794: "In October of the year 1786, when the first Mass was said and the sick were received, I was put in possession of the patronage. In conformation to the cited laws, by a solemn act, in the presence of the most distinguished persons of the City, the Lord Governor Don Estabon Miro, your predecessor, and the vicar curate Ecclesiastical Judge Fray Antonio de Sedella, the above said gentlemen, bestowed upon me in the name of the King the keys of the said Hospital which he transferred to me by the same act, so that its care may be confided to my zeal and charity."

With the departure of Miro for Spain, Don Almonester immediately felt the loss of his protector's friendship and ad-

miration, for it was not shared by the newly appointed Governor Baron de Carondelet. He was soon unjustly deprived of all control in the affairs and management of the hospital he so richly endowed and to which he gave such a liberal support. This apparent injustice and the abrogation of the rights and privileges of founder of the Hospital were vehemently contested by Don Almonester. His attack on and his contest of this act of Carondelet was not only stubbornly fought in the highest court of the colony in Havana but taken to the King of Spain himself. These documents in the possession of the Louisiana Historical Society (hitherto unpublished) furnish a most interesting and illuminating page in the history of our Hospital.

Of special interest to the medical man is the following mandate of January 3, 1794, of Almonester to Carondelet: "The conveyance of the Charity Hospital of Saint Charles last ordered by your Lordship to be made to me in your official letter dated the twenty-first of last month has not been carried out. First because the inventory has not taken place and second because the authorities have not wished to admit as Physician and Surgeon of the said Hospital, Don Louis Giovellina, whom I have appointed to that position in conformity with the order of His Majesty as expressed in his Royal Decree of the 23d of April. Don Louis Giovellina has not entered into the use and exercise of his office, because he was prevented from doing so by the present incumbent, Don Santiago Le Due, who claimed that he maintained that position because he was so ordered by you." Don Almonester was deprived of the rights and privileges of founder of the Hospital from May, 1792, to June 27, 1794. The following inventory illustrates vividly the progress made by our hospital in the past century:

This inventory of the hospital and its chapel was made on the twentieth of March of the year one thousand seven hundred and ninety-four, and is set down in the following: Thirty-five small cypress bedsteads, fifty-one old moss mattresses, thirty small linen pillows, twenty-three large cross-barred muslin mosquito bars, ten small mosquito bars made of linen, sixty new sheets, fifteen new linen covers for mattresses, thirty-five white woolen blankets, three blankets made of cotton yarns, two large linen table cloths, six aprons for the servants, fifteen white and blue shirts for men, six damask table napkins, three napkins with blue stripes, twenty-four India linen quilts (courtpanes), twenty-four cross-barred table napkins, forty-eight under vests of various colors, nineteen pairs of short

trousers of various colors, ten pairs of old long trousers, eleven coats of various colors, four cotton curtains, seven white and blue woolen cloaks, four skirts, five small coats and jackets for women, twenty-one pairs of long trousers of various colors, twelve tin platters, six old tin platters, forty new tin plates, twelve old tin plates, seven small tin dishes, forty-eight new tin spoons, eleven old tin spoons, forty-six new tin lanterns, twenty-three new tin vessels, four new tin urinals, ten small coffee pots to give drink to the sick, one old coffee pot, twenty-four earthenware plates, nineteen earthenware services (slop jars), two stoneware urinals with their handles, one large stoneware dish, one medium sized stoneware dish, ten new tin lanterns, twenty-one old tin lanterns, twelve new tin cuspidors, thirteen old tin cuspidors, one tin plate lantern with its handles, three copper portable furnaces or braziers for fire, twelve iron kettles of different sizes, one pair of irons for the fireplace, one shovel and a pair of iron tongs, one frying pan, some irons for the chimney, three large earthen jars, four small cypress tubs with iron hoops, three cypress buckets with their hoops, two cypress bath tubs, one large foot tub, four small copper saucepans of various sizes to make medicinal tea (Tisane), one copper bell, one pendulum clock, two iron shovels, two iron hatchets, two iron spades, one large cypress ladder to mount to the roof, one small ladder, one iron rack with various hooks to hang meat, twelve empty bottles, two plated silver covered dishes, one tin plate funnel, one large tinsel and tin plate street lamp, one copper lamp, five small jars of honey, five demijohns, one full of lemon (lime) juice, one barrel of salt, two hundred and sixty boards for coffins, one thousand small pieces of boards for coffins.

Slaves: One negro carpenter named Pedro, aged fifty-five years; one negro carpenter named Joseph, thirty-five years; another named Philip, sixty years old; one little negro boy named Andres, of fourteen years; another little negro boy named Francisco, of two and a half years; one negro girl named Maria, aged eleven; five lots of ground situated in the city.

"Senor Treasurer, Don Gilberto Leonard, stating that there were no other utensils belonging to the said Charity Hospital to inventory, this legal proceeding is completed."

This inventory reveals many interesting facts and gives a glimpse of the management of the Hospital. Of special interest to us today is the Chapel. It appears that a large amount of the endowment was expended in its lavish furnishings, which was in striking contrast to the scant equipment for the use of the sick.

Drugs are not listed in the inventory. Remedies must have been procured from the apothecaries. (There were five drug stores at that time.) The author has been unable to ascertain whether the medicines were furnished at the expense of the Hospital or were procured by the patients themselves.

This inventory makes no mention of any surgical instrument nor of any implement that could be useful in surgery. Without doubt surgery must have been practiced in that institution. Operations undoubtedly were performed on patients in their

beds, with the instruments belonging to the attending surgeon. The crudeness of technic, the lack of facilities, the absence of anesthesia and the ignorance of asepsis attest a high surgical mortality.

In 1796 New Orleans had 9756 inhabitants. The Saint Charles was a twenty-four bed Hospital. Its size and capacity in relation to the then population was of more favorable comparison than the hospital of the present day. A concept of the good accomplished, the charity performed, the suffering alleviated, and the number of sick cared for by that institution, can only be had by referring to the vital statistics and the few remaining documents of the time.

The extreme suffering, exposure and the frequent pestilences to which these colonists were continually subjected, and from which only the hardiest could escape, confirmed the extremely high death rate then current. The total mortality in New Orleans in 1796 was 638, one death to every 13.57 inhabitants, making a ratio of 72.86 per 1,000 population.

The Hospital was adjacent to the rear end of a cemetery (abolished in the early eighteen hundreds), but then situated in the square bounded by Burgundy, Rampart, Toulouse and St. Peter Streets. Fray Antonio de Sedella, in his petition dated the 9th day of April, 1801, for the removal of the burial ground beyond the city limits, gives a most interesting description of the unsanitary condition of the city of that day. He wrote: "The cemetery of this city is situated in the center of the last block, which I have thought a long time since prejudicial to the public health, and which was really shown this year; everybody having been sick in the colony with putrid and deadly fevers, and especially with Dysentery, so that a large number of people died." He also stated that: "The deleterious effects of this cemetery have been visibly felt this year. Whilst passing near I myself have noticed a foetid smell, I sought information from the neighbors and they affirm that these foul odors have been very often present this year." His gruesome description of the crowded condition of the burial ground also records the extremely high mortality of that period, as follows: "The number of corpses buried there being already so large that there was no more space to bury the dead. On opening new graves underground, bodies were found which

caused the emission of foul smells, destructive to the health of the City, and more especially after the epidemic which the people suffered that summer and from which they still were suffering."

This petition of that Capuchin monk, curé of the Cathedral, to have the cemetery removed from the city boundaries to the outskirts of the town, resulted in the choice of the site of the present Saint Louis Cemetery No. 1, now on Basin Street and Saint Louis. The document was accompanied by a street plan, illustrating the position of the old burial ground, and pointing to that of the Charity Hospital, which is shown in that and other plans to have been located in the square now bounded by the streets, Rampart, Basin, Toulouse and Saint Peter, which was also the original site of the Jean Louis Hospice des Pauvres.

In a contemporary directory is chronicled that the destitute poor alone were admitted. Precautions were taken against those abuses that creep in but too frequently today. But as there were no pay institutions to care for those not in need of Charity, their admittance was allowed on a fee basis. The following is taken from the "*Annuaire Louisianais pour l'Année 1809 par B. Lafon*": "The old hospital was founded by the French, and was entirely destroyed by the storm of 1779, Don Almonester y Roxas, Colonel of Militia of that Town, Royal Alfares, Perpetual Regidor and Knight of Saint Charles, founded the one which exists today, in the year 1786. It was entirely constructed at his own expense, he furnished it with all necessary implements necessary to help and alleviated the sick, and gave to it five skilled slaves, and transferred all the rentals of shops at the corner of Saint Peter and Levee. He also repaired at his own expense five small houses, the property of the former hospital." Also: "The dotation was of twenty-four beds, for the use of the sick who are neither incurable nor leprous, and they must not only be destitute but recognized as such. If other patients who cannot be classified as poor wish to be treated, they are forced to pay a certain amount so that they will not abuse of these charitable funds." To which is attached the name of Blanquet, Physician, and Juan Ximens, Administrator.

From its foundation the hospital had derived a portion of its income from the legacies of devout and charitable persons. From the earliest time it has been a pious custom in France to mention the hospital in one's will. There are scores of testaments extant in which a legacy is inscribed to the church for masses to be said for the repose of the legator's soul and to the Charity Hospital.

It seems that Don Almonester inaugurated the position of House Surgeon. During the existence of the Saint Carlos Hospital, Doctors LeDux, Giovellina, Blanquet and Sanchez acted in that capacity. In the court records of 1783 is mentioned Doctor Robert Dow of the Charity Hospital and Doctor Joseph Montegut, Surgeon General of the Hospital. Unfortunately, it is impossible to trace the true significance of the Hospital connection of these physicians, because in 1779 the Jean Louis Hospital was destroyed and it was not replaced by a new hospital (the St. Charles) until 1786. Presumably these doctors held their respective positions in the Jean Louis Hospital or in the Military Hospital in Hospital Street existing at that time.

The San Carlos and many public buildings were reduced to ashes by the great conflagration which swept the city on the memorable night of the 23rd of September of the year 1809.

Don Almonester, the richest man in the colony, was an astute business man, and was not only a notary in law but a contractor as well. His love of pomp and honors was an incentive to his philanthropy and, although highly honored by a grateful monarch, locally his munificence redounded only to his grief and discomfort, by reason of the unmerited jealousies, criticisms and the ingratitude of the members of the Cabildo and the Colonists. This astounding animosity to one who had contributed so much not only to the charity of, but to the up-building of his city, can only be attributed to their resentment of the proud, unbending and ostentatious phase of his personality. In a letter written to Don Estevan Miro, Ex-Governor of Louisiana, by Don Joseph Xavier de Pontalba, dated April 26, 1792, is found the following character sketch of that city builder: "We spent Thursday in town and dined with Almonester. He regrets your departure from the depths of his heart. He frankly avowed that he would find no one to re-

joice as you do in the good fortune of others. He is entirely disgusted with being benevolent. To give was a joy during your reign; because you knew how to appreciate it, but it is now his intention to be selfish. He has abandoned the building of the church (the Cathedral) and has not laid a brick on it since your departure." Also referring to the patronage of the Hospital, contested by the Baron de Carondelet, then Governor of Louisiana, we find in the same letter: "If force is brought to bear to compel him to turn it (the hospital endowment) over, he will give in under protest, and then announce that he refuses to continue the building of the church. You see that it is not easy to bend this man. He states that he regrets this trouble because the Baron (de Carondelet) is an excellent man, and that he is well aware that the disagreements he has to contend with are inspired by evil agitators. He is inconsolably awaiting the outcome, and is being tormented in his old age."

Don Almonester died on the 26th of April, 1798, and was interred in the St. Louis Cathedral.

The honors, achievements, charities and philanthropies of this remarkable personage, are best chronicled by transcribing the inscription to his memory on the marble slab, covering the vault wherein he reposes:

Here Lies the Remains

of

DON ANDRES ALMONESTER Y ROXAS

Native of Mayrena

In the Kingdom of Andalusia.

Died in the City of New Orleans

the 26th of April, 1798

at 73 years of age.

Knight of the Royal and Distinguished Spanish Order of Charles III.
Colonel of Militia of this place.

Rigidor and Royal Alferez of the Cabildo.

Founder and Donor of the Cathedral.

Founder of the Royal Hospital of Saint Charles and of its Chapel.

Founder of the Lazaretto.

Founder of the Chapel of the Convent of the Ursulines Nuns.

Founder of classes for the education of children.

Founder of the Presbytery.

All of these he has erected at his own expense, and are in the city.

REQUISCAT IN PACE

(To Be Continued)

New Orleans Medical and Surgical Journal

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EDITORIALS.

THE ANNUAL MEETING.

As will be seen by the records to be found elsewhere in the Journal, the last meeting of the Louisiana State Medical Society was probably the most successful in its history. The scientific sessions were well attended and well directed, there being no unnecessary loss of time, though discussion was not stifled.

The scientific exhibits were gratifying and should be continued and developed as they will be when the exhibitors find that the society fosters this valuable method of disseminating in-

teresting, useful information. In order to insure preparedness on the part of the exhibitors, however, the Society should make exhibits *regularly* at every meeting and should announce its intention to this effect. In this way, the highest types of exhibits can be looked for and as a matter of course are likely to be offered, in greater profusion.

The arrangement committee is to be congratulated not only for its efficient general management, but also for the excellent character of entertainment which they furnished. So that from practically every standpoint the meeting was really and truly an unqualified success.

VOLUME SEVENTY-FIVE.

About a year ago, when the Journal was thrust upon us after several members of the Editorial Staff refused to assume the responsibility, the present editor accepted the honor with fear and trepidation but with the understanding that the Journal should be kept alive as best he could during the unsettled period following its transition from private management, to ownership and publication by the State Society. This post-transition period is now terminated with the publication of the present issue representing the last number of volume seventy-five. Our obligation therefore is hereby fulfilled.

The outstanding facts gleaned from the experience of publishing the Journal for the allotted period of a year, are that its possibilities are immeasurably great. That these possibilities must be developed however, is also palpably obvious. Furthermore, that this development will only materialize as the result of assiduous care plus the expenditure of considerably more time than the present editor would feel capable of giving, is even more plainly to be seen.

Therefore, since the "Official Organ" has been launched and started on its way, as was agreed, the helm is placed in the hands of the Executive Committee of the State Society, with the full confidence that many volunteers will now eagerly accept the role of pilot and just as eagerly contribute *their* services, to safely steer the ship at least through another volume or two. To our successor, we cheerfully say, "bon voyage."

PHYSICIAN'S BUSINESS BUREAU.

One phase of the President's report was apparently overlooked by the committee from the House of Delegates on the President's report. In this report it was suggested that consideration should be given to the establishment by the Society of a "business bureau." Such a bureau would certainly be in keeping with the modern trend of organized medicine. The society is "organized" to protect its members against malpractice suits, against infringement of rights on the part of pseudo practitioners who are not qualified and in many other respects. But in characteristically unbusinesslike fashion, the Society is *not* organized to protect the *business interests* of its members. In the aggregate considerable sums must be spent yearly by the members of the Society for inadequate collection of just claims by various agencies more or less interested in this type of work. A well conducted bureau established and operated by the Society in a truly businesslike fashion, for members only, should be decidedly more efficient and more capable of obtaining results than at present seems possible under existing conditions. The idea is constructive and worthy of mature deliberation. Why not *organize for business protection?*

PROBABLY THE FIRST PHYSICIAN IN NEW ORLEANS.

I have had an opportunity to read the Journal of Father Charlevoix, written at the Toulouse Island, or La Balise, on January 26, 1722, in which he recites the names of the first inhabitants who were assigned lots for building purposes in the City of New Orleans. The lots were numbered and according to a plan of the city by M. Broustin. Each inhabitant was assigned one of these lots. The city was mapped out in 1718 by Engineer de la Tour. M. Bienville, the then governor, remained at old Biloxi until 1723, when he moved to the city.

In the study of these names I wondered who might have been at least one of the first physicians in the New Orleans. I thought it would be interesting to know and I began a search. Though not complete, I find at least in this list of names one who was a physician.

In this journal he recites the name of one who was both a surgeon and botanist and was in the service of the Western Company and stationed at old Biloxi. He moved to New Orleans about at the same period as did the governor, and his name was *Sieur Alexandre*. He is cited because of his interest in developing a good candle light from the leaves of a tree very much like that of a myrtle. He developed candles that had no fault and the light was soft and clear and the smoke they made had the smell of the myrtle and was very agreeable. He believed that if he had sufficient help he could make wax enough to load a ship every year.

Until I am enlightened further I shall remember *Sieur Alexandre* as one of New Orleans' first physicians.—T. J. Dimitry.

SOCIETY PROCEEDINGS.

**PROCEEDINGS
OF THE
HOTEL DIEU STAFF.**

Monthly Meeting for May, 1923.

The President, Dr. Homer Dupuy, in the Chair.

RADIUM AND GOITRE.

DR. J. M. PERRETT discussed "The Radium Treatment of Thyrotoxicosis." Two cases were presented. The first patient had the usual signs and symptoms of thyrotoxicosis and a bilateral adductor paralysis. She was given three radium treatments; she gained 26 pounds in weight, and the basal metabolic rate dropped from plus 73 to plus 15. In the second case both superior thyroid arteries were ligated, and three radium treatments were given later. She gained eighteen pounds, her pulse dropped 50 beats, the systolic blood pressure decreased from 163 to 150, and her condition improved in every way.

The reporter called attention to the fact that the clinical diagnosis of thyrotoxicosis is advantageously supplemented by the study of the basal metabolism and by the use of the Goetsch test. The former test must be cautiously interpreted, and the latter was at times rather risky. He claimed that the tests were in accord in 80% of the cases.

He said that radium attacked primarily the nuclei of the cells, and was five times more toxic for diseased cells and for tumor cells than for normal tissue elements. It also caused thickening and at times obliteration of the smaller blood vessels, and the consequent diminution of the blood supply, plus the strangulation of the cells by the connective tissue proliferation, aided in bringing about the improvement noted. In addition to this, the blood-forming and lymphoid tissues, as well as the thymus, were very sensitive to radium. The thymus was enlarged in 90% of his cases of exophthalmic goitre.

He found that parenchymatous and vascular goitres reacted best to radium treatment. Radium and X-rays acted in the

same manner, but the former was preferable because more exact dosage could be secured; there was no noisy apparatus and the treatment could be applied at the patient's home. Fifty-seven patients were treated by the author since November, 1921, including twenty-six cases of adolescent goitre, adenoma, and cyst-adenoma, without toxic symptoms. Of the 29 thyrotoxic cases, 17 were improved, 5 were not improved, 7 could not be traced, and one was moribund when treated. It was too soon to speak of cures, but in addition to the general improvement in the patients' condition, the basal metabolic rate decreased in 65% of the cases, the circumference of the neck decreased, the blood pressure dropped an average of 33 mm. Hg, the pulse rate was reduced an average of 15 beats, and the average gain of weight was 8½ pounds. Dr. Perrett felt that radium was very useful in the treatment of this condition, especially when the patient was so toxic that surgery was contraindicated. He said many cases could be cured by radium.

DR. NIX believed that the results of Dr. Perret in thyrotoxicosis have been most gratifying and in many instances, the treatment had been the means of saving life.

He recalled at least five cases which had they been subjected to even the slightest operation would have had a most stormy recovery if they recovered at all. One of the cases exhibited had had a ligation of the superior thyroid on each side under local anesthesia. At each operation the pulse was extremely rapid, feeble and irregular, averaging 160 beats per minute, and he felt sure that thyroidectomy would have been fatal. Under radium therapy the patient had improved to the point as shown and she apparently was cured. Dr. Nix eliminates all probable foci. The tonsils, teeth, blood, kidneys, gall bladder and alimentary canal are always investigated.

He did thyroidectomy after radiation in only one case. This was after double ligation followed by radium. Improvement was only temporary and thyroidectomy was finally performed. The difficulty of operation did not seem to be augmented but the patient stood operation exceptionally well; far better than at the time of single ligation; she bled very little and was doing well.

From the results obtained by Dr. Perrett he believed that radium held a very definite place in the treatment of thyrotoxicosis.

DR. DUPUY said that to explain some of the vocal cord phenomena mentioned by Dr. Perrett, it was essential to briefly review some anatomical and physiological facts. The recurrent nerves have two sets of nerve fibers, one for the adductors,—glottis closer—and one for the abductors,—glottis opener. These different sets of fibers supplied groups of muscles with a resultant effect of opposed action; one opened the glottis, the other closed the glottis. The abductors—the openers of the glottis—were the external or superficially situated fibers in the nerve cord. They were therefore anatomically more exposed to involvement when gradual pressure was exerted on the whole nerve cord. In this instance, only the glottis openers were involved and the vocal cord remained on the middle line. The voice was unaffected. When both sets of nerve fibers, that is, when the whole nerve cord was being pressed upon or injured, both abductor and adductor fibres were involved. The vocal cord then assumed the post mortem or cadaveric position. Both sets of fibres in this instance were implicated. In such an instance, the voice was markedly affected and there was some dyspnoea. The dyspnoea was brought about by the fact that the glottis was narrowed in its lateral diameter. If both nerves were completely paralyzed both cords remained in the cadaveric position, and the voice was reduced to a mere whisper.

In the case related by Dr. Perrett, there could not have been complete paralysis of both nerves, for the voice was unaffected, and if both abductor fibers in both nerves were pressed upon, the vocal cords would be on the middle line with the result that the voice would be perfect but there would be marked dyspnoea on the least exertion, for the cords would remain on the middle line during respiration.

DR. FUCHS said that he had seen this case some months ago.

Dr. Perrett mentioned that he reported a bilateral abductor (?) paralysis along with hoarseness. While hoarseness was not the general rule in this type of paralysis, a case was shown by him at the Eye, Ear, Nose and Throat Club, which gave hoarseness as a prominent symptom. Of course, in ab-

ductor paralysis there was always dyspnoea, for the cords could be brought together, but could not be opened to get a sufficient amount of air through. It was almost unbelievable that just sufficient pressure could be made on the superficial fibers of the recurrent laryngeal nerves, on both sides, producing an equal and bilateral paralysis.

The condition in this case was one of partial bilateral *adductor* paralysis, which was undoubtedly toxic or hysterical in origin and not due to pressure at all.

DR. MAURICE GELPI said that his experience with radiation of thyroids was limited to radiation with X-rays, but reasoning by analogy he felt that radium must also have a definite field of usefulness. He thought radiation should be classed with the palliative measures as a rule and that the effects were not lasting in toxic goitres which were not connected with foci in the teeth, tonsils or elsewhere. He thought it justifiable to use rest in bed, quinine and ergotine, injections of boiling water, ligation and similar measures to bring the patient to the point of operability. He was convinced that true toxic goitre was a surgical condition. However, while palliative measures were more or less indicated according to the individual case, these measures should not be persisted in, until the patient had a permanently damaged heart and kidneys. If operation was delayed until this stage, then the mortality was increased and it was impossible to completely cure a great many, even with surgery.

DR. SALATICH had practically no experience with the use of radium in the treatment of thyroids. He was glad to hear Dr. Perret say that he had derived some good from the use of radium. He had many cases that did not yield to medicine and were really poor surgical subjects so that he felt that probably radium would be of great benefit.

DR. PERRETT felt that the point brought up by Dr. Nix and others that foci of infection should be removed in treating thyrotoxicosis was well taken as these had an important bearing.

He agreed with Dr. Levy that large goitres that were causing mechanical symptoms were surgical and not radium cases.

HEMATOMA OF VULVA.

DR. E. L. KING reported a case of hematoma of the vulva, which developed after a spontaneous delivery. The midwife in charge of the case stated that the mass began to form before the delivery of the head, and that thereafter it enlarged rather rapidly. The patient was brought to the hospital, and the left labium majus was found to be distended by a blood clot nearly as large as the fist (see photograph). Under ether



Illustrating Dr. King's case of hematoma of the vulva.

anesthesia, the mucous membrane on the inner side of the labium (which was very much thinned out) was incised, the clot was turned out, a few oozing spots were sutured, the cavity was packed, and the opening was partly closed by silkworm gut sutures. Recovery was uneventful.

Dr. King stated that this was the second case of this nature that he had seen, and that both had occurred in spontaneous labors.

**PROCEEDINGS
OF THE
TOURO INFIRMARY STAFF.**

Monthly Meeting for May, 1923.

The President, Dr. M. Feingold, in the Chair.

GANGRENOUS CHOLECYSTITIS.

DR. URBAN MAES reported a case where the clinical story was one of peptic ulcer, with occult blood in the stools.

One night at a moving picture show he was seized with a sudden acute pain in the upper abdomen and had to be taken home. He was seen by his doctor who found him in a state of shock and suspected perforation with peptic ulcer. There was board-like rigidity of the abdomen but state of shock had entirely passed when operation was performed next morning. A thickened gall bladder with numerous fat deposits, and a spot of gangrene which was localized to the ampulla was found. A cholecystectomy was performed and the appendix was removed. The boy did well for about 48 hours when he began to have rather characteristic vomiting with restlessness, spitting up just a little at a time. A Jutte tube was introduced but after 48 hours trial, this did not relieve the condition which was obviously a paralytic ileus. High jejunostomy under local anesthesia was done after which he began to improve. The tube was removed on the fifth day and was followed by profuse discharge, which was very irritating, and after two or three days he suffered intense pain and scalding from the excoriation of the abdominal wall. It was obvious that a jejunal fistula was present and the digestive juices were acting on his skin. By means of the electric light, placed over the patient, (two twenty-five watt bulbs at a distance of 15 inches) it was possible to control the digestive process except during the very free flow of secretion. At this time, a small cotton plug placed in the wound held back the secretion sufficiently to allow the heat and light to inactivate the secretions. After four days of treatment, the fistula had entirely closed. Dr. Maes thought that the points of interest in the case were the gall bladder findings with occult blood in the stools, and the

closure of the intestinal fistula by means of the heat and light supplied by the ordinary bulb.

PERNICIOUS ANEMIA.

The previous history of this patient was one of progressive loss of appetite, loss of weight and an uncontrollable diarrhea. After a very brief observation, she was referred to the Gastroenterologist and found to have an achylia. Blood examinations revealed a low red count, with a hemoglobin of 55% and many nucleated red cells, which confirmed the suspicion that the patient had pernicious anemia. No intestinal parasites could be found. On May 15th, her total red cell count was 1,625,000 with a color index of 1.4 and there was complete disgust for food. On May 25th her blood count was 1,600,000 but diluted HCl had controlled the diarrhea. On June 3rd her red count was still 1,600,000, but she was transfused, 500 cc. of citrated blood being obtained from her brother. On June 5th her count had risen to 2,320,000 and at the end of eight days this had dropped to 1,600,000. She was given a second transfusion on June 22 when her count rose to 3,100,000, followed by a drop to 2,200,000. A splenectomy was done and on the morning of her operation, July 1st, her count had dropped to 1,900,000. On July 7th, six days after the splenectomy, her count had risen to 2,840,000 and on leaving the institution four weeks later this had risen to 3,300,000 with a color index of 1.1. Her weight before operation was 123 pounds, and she now weighed 107. A blood count done two days ago showed her red cells practically normal, hemoglobin 80%, and not an abnormal cell could be found. This patient had certainly benefited very materially from the splenectomy. Just how long the improvement would last was a question.

Dr. Maes thought that one of the very interesting sidelights in this case was that no Wassermann was done on the donor, and about six weeks after the transfusion the patient developed a maculo-papular eruption which the Dermatologist said was syphilis, and which promptly yielded to mixed treatment. In discussing this feature of the case with Dr. Johns, he informed Dr. Maes that syphilis in his observation seemed to diminish the fragility of the red blood cells, and as the fragility was increased in pernicious anemia, it was an interesting specu-

lation as to just what effect the blood introduced infection had had on the progress of the pernicious anemia. This was the only case that he had seen where the patient's improvement had been so marked and where the blood had returned to normal. It was also interesting to note that the increase in red cells after transfusion began to diminish in about eight days and a splenectomy with only 1,900,000 red cells was followed by an immediate and progressive increase which had lasted for nearly eight months.

DR. COHN was interested in finding that splenectomy for pernicious anemia, as a definite procedure was suggested by three men in 1913 working independently of one another: Eppinger, Dicostello and Klemperer. The rationale on which each proceeded was as follows: Eppinger had noted that following splenectomy there was a diminution in the urobilin output and other evidences of hemolysis were diminished. DeCostello operated because he noted a marked improvement following splenectomy in a case of haemolytic jaundice. Klemperer noted that following splenectomy for a ruptured spleen, a polycythemia developed.

Before the American Association of Physicians in 1915, Ottenberg and Libman simply stated that "splenectomy was advisable in the treatment of this disease." At this same meeting Richard Cabot reported six cases on which splenectomy had been done. After the first three weeks the red cell count had increased to 4,000,000 and over. Four of the six cases were back at work after four months.

Percy reported in detail on 24 out of 37 cases on which he had done a splenectomy for pernicious anemia. Twenty-one or eighty-seven per cent of the twenty-four cases were markedly improved.

James Hitzrot's reports had seven cases of splenectomy for pernicious anemia. Three were improved for periods of from one to four years, and three cases resulted in death within the year following the operation.

It seemed from the splendid result shown in the case on which Dr. Maes did a splenectomy and from a review of the literature, that one should look upon pernicious anemia as a surgical disease, but not in all its phases. During acute exacerbations, splenectomy should not be done. It was not advisable

in cases in which there was evidence of mental disturbances, and when there was spinal cord changes. It was contra-indicated in elderly people, and as a rule when there was an acute diarrhea.

Transfusion, the eradication of foci of infection, and splenectomy were the most important therapeutic measures in the present handling of pernicious anemia.

DR. D. N. SILVERMAN said he saw this patient for the first time about eight days before his operation. He complained of abdominal symptoms somewhat suggestive of peptic ulcer. The acute abdomen developed rather unexpectedly and perforating duodenal ulcer was suspected. The presence of occult blood in the stools helped in the diagnosis of ulcer. Bleeding from the stomach and upper alimentary tract was sometimes an accompaniment of other chronic abdominal conditions which were difficult to differentiate from ulcer. Bassler reported about seven cases of chronic appendicitis with occult blood in the stools. Ransahoff, in a recent discussion of the difficulties of differential diagnosis of chronic lesions of the abdomen, reported a case of severe hematemesis in which only a chronic appendix could be found at operation. The same condition sometimes prevailed in diseases of the gall bladder. Crispin stated that 5% of cholecystitis cases had some bleeding from the stomach or duodenum.

He said in reference to the action of pancreatic juice on the skin, as a result of jejunal fistula, that we do know that the application of heat inhibits the enzymes. However, as Howell states, an extreme heat of 135 F. to 170 F. was required to inactivate the enzymes. Light was also a factor in decreasing the digestive activity.

The reaction of the duodenal contents has some bearing upon the digestive efficiency of this fluid. In a case of jejunal fistula, the physiology was disturbed and possibly the acid-base mechanism of the stomach and upper small intestine. In normal individuals, the acid from the stomach greatly inhibited the pancreatic digestion during certain stages of a fast. Certainly the location of the fistula would serve as a guide as to the intensity of treatment because of the variations of digestive activity of the intestinal contents.

DR. STONE consulted with Dr. Clark and Dr. Parham on a case of jejunostomy following rupture of gastric ulcer where an acute ileus developed. Dr. Clark introduced the suction apparatus right into the fistula and sucked this out continuously for 24 hours, practically dehydrating the patient. Later heat was applied with no effect. It was necessary to do an entero-enterostomy to get a closure of the opening of the jejunum. If the opening was very small, the light and heat perhaps would have some effect but in large openings, the discharge was too great. In all enterostomy openings, if the tube was passed through the omentum, there was a better chance for closure of the fistula when the tube was removed.

DR. F. W. PARHAM said it seemed to him that Dr. Maes' case of splenectomy was a most remarkable one. Two or three years ago in the Parish Medical Society someone took exception to splenectomy. He said that the spleen was not enlarged in pernicious anemia, and did not believe it should be considered a proper procedure in this disease. At that time Dr. Parham saw a case where a diagnosis of pernicious anemia was made. The spleen in that case was distinctly enlarged. The autopsy showed central carcinoma of the liver. Will Mayo had presented this matter in a very conclusive way. We could not fail to consider the value of splenectomy. Transfusion did a great deal of good; a sufficient number of cases had been reported where repeated transfusion had brought about such a degree of improvement that these people have been able to go to work. He did not believe any case, however, treated by transfusion showed the remarkable improvement seen in this case. Recently, Peterson gave the indications for transfusion and one of the gentlemen in discussing the paper remarked that he thought it was very much more important to follow the indications for transfusion than to discuss the method, as both methods had given satisfactory results.

The observations of Dr. Maes with regard to heat struck Dr. Parham as being very interesting. There was some question, according to Dr. Silverman's suggestion that light might play the more important part in this treatment. He called attention to the fact that prevention in such cases was most important. Dr. Maes he was sure was perfectly familiar with this but did not mention it. Dr. J. Wesley Long of North Caro-

lina he thought was the first to suggest bringing the tube through the omentum, before passing it out through the abdominal wall. Dr. C. H. Mayo took it up afterwards and popularized the procedure, which should be carried out in all cases where possible, where a jejunostomy is done. Leaks would rarely occur if this was done.

DR. LEMANN asked if the patient received any Salvarsan since the discovery of lues, and if so, whether some of her improvement might be due to the arsenic? The improvement in the case after splenectomy was most remarkable. He had seen spontaneous remissions in pernicious anemia, but never complete restoration of the blood to normal. He thought it was a most encouraging report. Dr. Maes very properly laid emphasis upon the need of doing splenectomy early in pernicious anemia in order to get such results as this. He understood that he would not propose to do a splenectomy in terminal cases.

DR. ESHLEMAN thought splenectomy had great possibilities. However he did feel that in the particular case reported, the time had been too short since operation to feel that the treatment had been directly due to splenectomy. He was sure he had seen cases where the patient showed similar improvement without splenectomy.

DR. MAES replied to Dr. Lemann's question that Salvarsan was not used on account of the difficulty in locating the superficial veins which could only be done after a rather extensive dissection for transfusion. It would seem that this was one of the first paroxysms that this patient had. He thought she might be put in the category of an early case.

NEWS AND COMMENT.

THE SUCCESS OF THE LOUISIANA STATE MEDICAL SOCIETY MEETING for 1923 is well expressed in the following communication from Dr. P. T. Talbot, secretary-treasurer:

The Louisiana State Medical Society completed its forty-fourth annual meeting recently here in New Orleans with the largest registration ever recorded. At that time there were registered 602 physicians, which included 486 members, 144 out of New Orleans and 342 in New Orleans, of the Louisiana State Medical Society, the rest being composed of guests and visitors. I for one feel that the organization as a whole has every reason to feel gratified at the splendid showing exhibited at this meeting. Personally speaking, from the secretary-treasurer's viewpoint, it was a source of consolation and pride to have such enthusiasm expressed. Certainly everything was done to make the time of the visitors well spent. The social functions were of an unusual nature and reflected credit, not only upon the individual hosts, but upon the chairman and members of the arrangement committee, who strove so hard to perfect these plans; too much credit cannot be bestowed upon them.

The scientific program culminated with unusual precision, bringing out a large amount of discussions as a result of many valuable scientific contributions. At all times our scientific sessions were well attended and the enthusiasm expressed at the meetings was very impressive.

The scientific exhibits were unquestionably one of the outstanding features of the meeting, many of which were highly instructive and well worth seeing, more than any attraction offered at the annual session. Only words of commendation were heard expressed by those who had the unusual opportunity of seeing them. Those who were not in attendance can hardly realize what they missed in this regard. We have hopes for the future, that this unusual demonstration has proven to the officers and those interested in the State Society the feasibility of continuing them. Possibly it may be more difficult, when meeting outside of large centers, to have such an array of exhibits; yet it would certainly be possible to have a creditable scientific exhibit at every annual meeting.

Our retiring president, Dr. Paul J. Gelpi, should have every reason to feel proud of his administration, containing as it does some of the most important instructive acts for organized medicine and culminating in such a splendid expression of interest and enthusiasm, as our annual meeting. Great praise is due him, as president, for his earnestness and consecration, to which a great deal of the success of our State Society is due. He has certainly set an example to our future administrations, who will have a hard time to equal this one. All of which, I think, means that as an organization we are getting better and better. We have accomplished a great deal, yet there is a lot more that can be done.

The following officers for the year 1923-1924 were duly nominated and elected according to our constitution and by-laws:

President, Dr. L. J. Williams, Baton Rouge; 1st vice-president, Dr. C. V. Unsworth, New Orleans; 2nd vice-president, Dr. Marvin Cappell, Alexandria; 3rd vice-president, Dr. Foster Johns, New Orleans; secretary-treasurer, term of one year, Dr. P. T. Talbot, New Orleans; councilor, 1st Congressional District, Dr. S. M. Blackshear, New Orleans, one year; councilor, 2nd Congressional District, Dr. Geo. S. Bel, New Orleans, one year; councilor 3rd Congressional District, Dr. Frank F. T. Gouaux, Lockport, two years; 4th Congressional District, Dr. A. A. Herold, Shreveport, one year; 5th Congressional District, Dr. T. E. Wright, Monroe, one year; 6th Congressional District, Dr. W. R. Eidson, Baton Rouge, two years; 7th Congressional District, Dr. V. A. Miller, Lake Arthur, two years; 8th Congressional District, Dr. S. J. Couvillon, Moreauville, two years.

Next place of meeting will be Opelousas, date of which will be set by the Executive Committee at their meeting within 30 days from this date, in New Orleans.

AT THE ORLEANS PARISH SOCIETY—The following resolutions were adopted by the Orleans Parish Medical Society and transmitted to the Journal for publication:

Whereas, the Board of Administrators of Charity Hospital has announced that, that great institution is sorely and acutely in need of funds for equipment and building, and

Whereas, the Medical Profession feels certain that this need will occur again at no distant date unless the facilities of the

hospital are denied to those who can afford to pay and reserved for those only who are poor and needy,

Be It Resolved, That the membership of the Orleans Parish Medical Society individually and collectively pledges its efforts to make the appeal for funds a success, at the same time earnestly petitioning the Board of Administrators to secure the enactment of laws safeguarding the rights of the poor, against the unscrupulous well-to-do and to promptly establish an efficient Social Service Department to further this end.

Be It Resolved, That copies of these resolutions be sent to the Board of Administrators of Charity Hospital and to the Journal of the Louisiana State Medical Society.

THE FIFTH DISTRICT MEDICAL SOCIETY meets in Monroe June 12, 1923. Dr. McElroy of Memphis, Tenn., will read a paper on Blood Chemistry. There will be doctors from Shreveport and New Orleans also on the program.

THE BEAUREGARD PARISH MEDICAL SOCIETY held its regular meeting Monday evening, May 7th, 1923. Members present were: Dr. G. M. Anderson, DeRidder, La.; Dr. B. J. Cole, Carson, La.; Dr. J. E. Crawford, Ludington, La.; Dr. J. E. Knight, Merryville, La.; Dr. R. L. Love, DeRidder, La.; Dr. Geo. F. Middlebrook, Ragley, La.; Dr. J. C. Miller, Bon Ami, La.; Dr. T. C. Moody, DeRidder, La.; Dr. S. T. Roberts, DeRidder, La.; Dr. S. O. Turner, DeRidder, La.; Dr. A. E. Douglas, Sugartown, La.

Dr. V. A. Miller, Lake Arthur, La., Counselor 7th Congressional District; Dr. Moss, Lake Charles, La., Sect. 7th District Medical Society; Dr. Oscar Dowling, New Orleans, La., President Louisiana State Board of Health; Dr. K. E. Miller, New Orleans, La., Director Rural Sanitation State of Louisiana, and Prof. D. G. Lundsford, DeRidder, La., Parish Supt. Education; Miss Ethel B. Stiedley, DeRidder, La., Editor DeRidder Enterprise, were guests of the Society.

Two local dentists, Dr. J. F. Love and Dr. D. Talbot were also present.

Papers were freely discussed and the meeting was followed by a luncheon tendered by the Beauregard Parish Health Unit.

THE LAFOURCHE VALLEY MEDICAL SOCIETY held a regular meeting on Tuesday, May 8th, 1923, at Thibodaux. The president, Dr. T. I. St. Martin of Houma, presided, and Dr. Sidney Smith, the secretary, was at his desk. The scientific session consumed the late morning and early afternoon hours and was followed by an excellent dinner at the Hotel Jefferies.

Papers were read by Dr. Maurice Gelpi of New Orleans, on "The Treatment of Early Abortions"; by Dr. Hamilton P. Jones, New Orleans, on "The Treatment of Toxic Goitre," and by Dr. Leonard C. Scott, acting assistant surgeon of the Bureau of Venereal Diseases, Louisiana State Board of Health, on "Venereal Statistics."

All papers were freely discussed bearing evidence that this society is thoroughly serious and enthusiastic.

THE REGULAR STAFF MEETING OF ST. FRANCIS SANITARIUM, Monroe, La., was held on April 18th, 1923. The regular meeting of the staff was preceded by dinner at 6:30 p. m. The meeting was called to order by the chairman, Dr. I. J. Newton.

Those present were: Drs. Newton, W. P. Morrill of Shreveport, La., J. L. Adams, G. M. Snellings, C. P. Gray, R. W. O'Donnell, J. Q. Graves, C. H. Mosely, W. L. Bendel, C. U. Johnson, C. A. Beatle, A. L. Peters, L. B. Newsom, D. I. Hirsch, A. G. McHenry, R. W. Faulk, J. E. Walsworth, F. C. Bennett, P. L. Perot, J. T. French, T. E. Wright, J. B. Vaughan, I. J. Wolff, J. S. Archibald and J. W. Schrieber, Director of Health Unit, Monroe.

Dr. W. P. Morrill, Superintendent of Charity Hospital, Shreveport, La., was the speaker of the evening. The subject of his discourse was the "Minimum Standard in Actual Practice."

AVOYELLES PARISH MEDICAL SOCIETY. The Avoyelles Parish Medical Society met at the president's home, Hesser, Thursday, April 19, 1923, at 8 p. m., Dr. George R. Beridon presiding, Dr. S. J. Couvillon, secretary.

The following members answered the roll call: Drs. G. R. Beridon, Sylvain deNux, S. J. Couvillon, R. G. Ducote, W. F. Couvillon, Philip Jeansonne, Henry Buck, W. A. Quirk, K. A. Roy, Leonard Chatelain, E. A. Poret. Absentees: Drs. E. S.

Matthews, H. C. Jones, J. W. Plauche, A. T. Barbin, L. C. Tarleton and G. R. Fox.

The committee composed of Drs. Beridon, Quirk and deNux submitted resolutions of sympathy on the death of Dr. Thos. A. Roy, which were unanimously adopted, and the secretary was authorized to forward a copy to Dr. Roy's family, one to the New Orleans Medical and Surgical Journal and the same to appear in the minutes of this meeting.

Clinical cases of various descriptions were discussed by all the members present and at the conclusion of this part of the program, Dr. R. G. Ducote offered a resolution, duly seconded, that a committee composed of Dr. W. F. Couvillon, Dr. G. R. Beridon and Dr. Sylvin deNux be selected to confer with the Police Jury and the Avoyelles School Board with the view of devising means to raise funds from Avoyelles in response to the Charity Hospital Appeal and help maintain an institution which has done and is doing so much for the indigent sick and helpless.

The Society was honored with the visit of Dr. J. T. Cappel of Alexandria, who read an interesting paper on "Modern Treatment of Acute Tetanus." The paper was well received and thoroughly discussed by the members present. He was accompanied by Dr. Carney of the Base Hospital who gave an interesting lecture on "Artificial Pneumo-thorax in the Treatment of Tuberculosis," illustrated by X-ray plates. Dr. M. H. Foster, District Collaborator of the Journal from the Eighth Congressional District, accompanied Drs. Cappel and Carney. Dr. Foster's visit was quite an incentive and his remarks and those of Dr. S. J. Couvillon, District Counsellor, for a BIGGER NAME to our State organization and correspondingly so of OUR JOURNAL, were well taken by the members in attendance.

Following the program the Society was tendered a sumptuous banquet under the auspices of Mrs. Beridon, assisted by the better-halves of the local profession. This being the "President's Night," the evening's entertainment proved quite a novelty to the medical profession of Avoyelles. It is worthy of mention that it was decided at this meeting that all future presidents of the society will entertain the members at home

on the first meeting following his election and that it be known as the "President's Meeting."

It was decided that the Society advance its meetings to every other month rather than quarterly as heretofore and that the Plaucheville invitation be accepted to meet there Thursday, June 14th, 1923.

The chair selected Dr. W. F. Couvillon of Marksville as the author of a paper to be read at the next meeting and the subject chosen by the doctor is "Report of a Few Unsuccessful Cases." Dr. Philip Jeansonne was chosen to open discussion.

Avoyeles Medical Society resolutions of sympathy on the death of Dr. Thos. A. Roy, passed and adopted at its quarterly meeting, April 19th, 1923:

WHEREAS, We deeply deplore the untimely death of our confrere, Dr. Thomas Alcide Roy, and

WHEREAS, We recognize in the loss of Dr. Roy, an able physician, progressive man, sincere in his convictions, one who stood out boldly and prominently for what he felt was right—a lover of truth and one who always espoused the cause of advancement in our civilization; therefore be it

RESOLVED, That we extend to the family our sincere condolence in their bereavement in the loss of a loving husband and devoted father.

Signed { G. R. BERIDON, M.D.,
W. A. QUIRK, M.D.,
S. de NUX, M.D.,
Committee.

EIGHTH CONGRESSIONAL DISTRICT. Dr. H. M. Foster, representing the Journal in the eighth district, attended the Avoyelles Parish meeting recorded elsewhere. According to Dr. Foster the program was successfully rendered in two parts: Social and Gastronomic and Scientific.

Dr. H. E. Carney of Alexandria brought in a view box and demonstrated and explained about fifty X-ray films. Several of these taken from the same patient over a period of about 18 months time, were shown to demonstrate the rapid and extensive metastasis of Osteo-Sarcoma.

Dr. J. T. Cappel read a paper on Tetanus.

Dr. Foster made some remarks of appreciation to the Avoyelles Parish Medical Society for this particular occasion, and called attention to the development and expansion of our State Journal under the present management, in the interest of the practitioners whom it is intended to serve. In conclusion, he urged a closer co-operative interest in scientific medicine generally.

Dr. G. M. G. Stafford made a business trip to New York City in April.

Dr. J. L. Wilson recently spent a month in New York doing scientific study.

The State Medical Society was attended by Drs. Brewster, Ewing, Holloman, Marvin Cappel, White, Pierson, A. M. Peters and Foster, from Rapides Parish, and by Drs. Quirk, Buck, Couvillon and Ducote from Avoyelles.

One of our delegates, Dr. Hardy of Leconte, was prevented from attending this session due to his physical condition. It has since become necessary to transfer him to a hospital in New Orleans where he is seriously ill. News of his improvement is anxiously awaited, and it is profoundly hoped that his recovery may be announced at the time this goes to print.

Dr. J. A. Packer was operated upon for appendicitis, at the Baptist Hospital in Alexandria in April.

Dr. R. B. Wallace and Dr. George C. Antony will soon leave for New York and Boston for the purpose of scientific study.

Dr. R. O. Simmons went to Hot Springs, Ark., May 15th, for a short rest. From Hot Springs he will go to Chicago for scientific study in Northwestern Medical, and then to Washington, D. C., to be present at the graduation of his daughter from Georgetown Visitation Convent.

AT THE CHARITY HOSPITAL, NEW ORLEANS. The reorganization of the visiting staff as arranged by the special committee, appointed by the executive body, has been in effect since May 1st.

One of the changes wrought by this reorganization is the establishing of a special fracture service. All fracture cases are placed in this section instead of being distinguished throughout the hospital. An Orthopedic service has also been established.

Due to this reorganization, and until all cases have been segregated and placed in their respective divisions, it is expected that some little confusion will arise, but things are adjusting themselves rapidly and it will be but a very short time before all these changes can be made.

THE UNITED STATES CIVIL SERVICE COMMISSION announces the following open competitive examinations: Spe-

cialist in physical education and school hygiene; reconstruction aide (physiotherapy); reconstruction pupil aide (physiotherapy). Full information and application blanks may be obtained from the U. S. Civil Service Commission, Washington, D. C., or the secretary of the board of U. S. civil service examiners at the post office or customhouse in any city.

EXAMINATIONS OF CANDIDATES for entrance into the regular corps of the U. S. Public Health Service will be held as follows: At Washington, D. C., Chicago, Illinois and San Francisco, Calif., on July 9, 1923.

REMOVALS: Dr. R. F. Harrell, from Shreveport, La., to 1121 Thirteenth St., Boulder, Colorado.

Dr. R. Bernard, from 1600 Hibernia Bank Bldg., to 514 Medical Bldg., New Orleans.

Dr. J. H. Parker, from Jackson, La., to State Hospital No. 4, Farmington, Mo.

DIED: On March 14, 1923, at Los Angeles, Calif.. Dr. G. Frank Lydston, of Chicago Ill., aged 65 years.

Physicians and Surgeons in Louisiana, and date of license. E. Lemonier, 1816; M. Halphen, 1816; D. C. Ker, 1816; D. T. Thomas, 1818; T. Formento, 1819; D. Holt, 1819; E. H. Barton, 1820; J. Rice, 1820; H. Doussan, 1821; J. E. Ker, 1821; G. Labatut, 1822; J. S. McFarlane, 1824; A. Byrenhindt, 1825; Puisson, 1826; T. O. Meux, 1828; M. Hough, 1828; G. W. Campbell, 1829; C. A. Luzenburg, 1829; Biamenti, 1829; A. Davezac, 1829; Fortin, 1829; A. H. Cenas, 1829; J. T. Crockett, 1829; P. Albuzzi, 1831; E. B. Harris, 1831; L. Hitchcock, 1831; F. Rushton, 1831; John Harrison, 1831; James Jones, 1832; R. Cheauveux, 1832; F. B. Smith, 1832; R. Vionnet, 1832; J. M. W. Picton, 1832; E. H. Kelly, 1832; A. P. Lambert, 1832; G. T. Osborne, 1832; S. Harley, 1833; R. Galindo, 1833; E. Palmer, 1833; M. Pupierris, 1833; S. W. Dalton, 1833; R. W. Leech, 1834; J. J. Kerr, 1834; R. G. Ridgley, 1834; E. H. Bardasch, 1834; O. Carey, 1834; J. Q. N. Holt, 1834; J. M. Machie, 1835; Chalupt, 1835; M. B. Rogers, 1835; W. E. Kennedy, 1835; W. Stone, 1835; C. H. Daret, 1835; T. Beatty, 1835; J. Farrell, 1835; J. S. Martin, 1836; B. Dowler, 1836; C. F. Snowden, 1836; M. M. Dowler, 1836; J. Rhodes, 1836; J. Ritchie, 1836; R. Easton, 1837; O. W. Ruff, 1837; J. O'Neil, 1837; C. Suppe di Valetti, 1837; A. Bahier, 1837; E. B. Donnell, 1837; W. Wilcox, 1837; J. B. T. Gaillardet, 1837; A. Huet, 1837; G. T. Morgan, 1837; G. Guesnard, 1837; J. Bartolati, 1837; G. Benquit, 1837; J. N. A. Delaruelle, 1837; R. F. Lindson, 1838; Jos. F. Griffin, 1838. Total 77.

BOOK REVIEWS AND NOTICES.

All new publications sent to the JOURNAL will be appreciated and will invariably be promptly acknowledged under the heading of "Publications Received." While it will be the aim of the JOURNAL to review as many of the works accepted as possible, the editors will be guided by the space available and the merit of respective publications. The acceptance of a book implies no obligation to review.

BOOK REVIEWS.

Legal Medicine and Toxicology, by many specialists; edited by Frederick Peterson, M.D., Walter S. Haines, M.D., and Ralph W. Webster, M.D.; 2nd ed. Philadelphia, W. B. Saunders Co., 1923.

This splendid work cannot be praised too highly. It is complete in every detail, and fully up to date. The arrangement of the text into two volumes, the first devoted to legal medicine, the second to toxicology, makes two easily handled books, in logical order. The need for such a treatise is great at the present time, most of the authoritative works being out of date, and the mere names of the contributors of the various articles are sufficient to guarantee their excellence. It is safe to say that no doctor should be without this masterpiece, and that it should be studied by all medical students. The volumes are bound and printed in the usual excellent manner which one associates with the work of W. B. Saunders Co. The authors and the editors are to be congratulated. C. J.

Obstetrics for Nurses, by Joseph B. De Lee, A.M., M.D.; 6th ed. W. B. Saunders Co., 1922. Philadelphia.

This very useful book on obstetrics for nurses appears as the sixth edition. It is complete and thoroughly up to date. Freely illustrated and written in a style readily understood, it fully serves the purpose for which it was written. L. A. L.

An Introduction to Dermatology, by Norman Walker, L.L.D., M.D., F.R.C.P.; 7th ed. New York, William Wood & Co., 1922.

In the 355 pages of this valuable book, modestly called by the author an "introduction," are 80 illustrations and 84 plates. The colored plates especially, are excellent and the impression conveyed by them is clearer than in the usual illustrations of skin diseases.

The chapter on dermatitis venenata is particularly good, but indeed, all of the text is clearly and concisely written. The author confesses that he has not dealt with some of the newer methods so fully as might be desired by some, sapiently observing that the experts must ruminate over many of these new hypothetical suggestions before passing them on to the student in a digestible form. R. H.

Ringworm, by John P. Turner, M.D. Philadelphia, F. A. Davis Co., 1921.

This little treatise on ringworm is essentially a practical guide for diagnosis and treatment intended evidently for the general practitioner. Of interest is the chapter on treatment of ringworm of the scalp without the use of X-rays. The author claims that few ringworms will fail to disappear during one, or at most four courses of treatment, each course lasting thirteen days. This unusually favorable prognosis is based not on any new drugs but on a systematic succession in the use of well-known remedial agents. R. H.

An Index of Treatment, by various writers, edited by Robert Hutchinson, M.D., F.R.C.P., and James Sherren, C.B.E., F.R.C.S.,

revised to conform with American usage by Warren Coleman, M.D., eighth edition, revised and enlarged. New York, William Wood & Co., 1921.

Works of this type are by their very nature open to many objections. Therapy should in most instances be based not on dogmatic rules, but on deductions drawn from the careful study of the individual case. Therapeutic indexes and similar works encourage rule of thumb and empyric methods. For those who care for this type of work this volume has much to commend it. In general it covers the field most thoroughly and the treatment advocated is generally in accord with accepted views, although it has not always been brought up to date. Examples of such omissions are the failure to mention the value of intravenous injections of serum in epidemic cerebro spinal meningitis or to emphasize large doses and intravenous administration of antitoxic serum in severe cases of diphtheria. The chapter on specific therapy (bacterio therapeutics) appears to have been written by one having much more faith in this type of therapy than, in the opinion of the reviewer, is justified by theoretical considerations or clinical experience. J. T. H.

The Treatment of Acute Infectious Diseases, by Frank Sherman Meara, M.D., Ph.D., second edition, revised. New York, The MacMillan Company, 1921.

Some years ago the first edition of this work was most favorably reviewed in the columns of this journal. Of the new edition the reviewer can again state that for medical students or practicing physicians it is the best treatise on the treatment of acute infectious diseases of which he knows. In the new edition the author has embodied the important results of the admirable clinical work done by the Medical Corps of the United States Army during and following the war. New chapters on encephalitis lethargica, trench fever, rat bite fever, Rocky Mountain spotted fever, and on the common acute infection of the respiratory tract, as well as on epidemic influenza are very useful additions. It is noted that Dr. Meara in this edition is more decidedly than formerly inclined to believe that drugs of the digitalis group are more effective than any others in combating the circulatory failure of acute infection. For the younger physician especially, the value of the book is enhanced by the many detailed descriptions of methods of utilizing various remedial agents and procedures. J. T. H.

Montaigne and Medicine, by James Spottiswoode Taylor, M.D., F.A.C.S. Published by Paul B. Hoeber, New York, 1922.

Montaigne, the skeptic, influenced world-thought. In this entertaining little volume is presented his attitude towards the medical science of his day. He suffered from gout and lithemia. His was a struggle for health. He was an acute observer of natural phenomena. Like the true physician in his mode of thought, character and temperament. He is philosophic, and makes the significant remark that "To study philosophy is to learn to die." This monograph quotes amply from "Les Essais." There is a literary excellence about it which adds to its historic value. Montaigne's manner of searching after truth can well serve as a model to the modern physician. He was unwilling to speak with finality until he could verify all the facts. Shade of Esculapius, how we need just such a mental attitude in these days of hasty conclusions! H. D.

Miscellaneous: Forty-fifth Annual Report of the Department of Health of the State of New Jersey. Report of the Philippine Health Service for the fiscal year January 1, to December 31, 1921, Manila Bureau of Printing. Questionnaire and Score Card applicable in Choosing a Country Property, by Dr. Wm.

Paul Gerhard, C.E., Institute of International Education, Fourth Annual Report of the Director. A Study of the Sympathetic and Vaso-Motor Pathology with Citations from the Latest Literature on the Subject, by J. Madison Taylor, A.B., M.D., and Henry Windsor, M.D. Thirty-first and thirty-second Annual Reports of the Eye, Ear, Nose and Throat Hospital, Andr  e Printery, Inc.

PUBLICATIONS RECEIVED.

W. B. Saunders Company, Philadelphia and London: Legal Medicine and Toxicology, by Frederick Peterson, M.D., LL.D., Walter S. Haines, A.M., M.D., and Ralph W. Webster, M.D., Ph.D., Vols. 1 and 2, second edition.

C. V. Mosby Company, St. Louis: Clinics and Collected Papers of St. Elizabeth's Hospital. Vol. 1, 1922. Nursery Guide for Mothers and Nurses, by Louis W. Sauer, M.A., M.D.

Washington Government Printing Office, Washington, D. C.: U. S. Naval Medical Bulletin, Col. 18, No. 4, April, 1923. Public Health Reports, Vol. 38, Nos. 14, 15, 16, 17, 18. Miscellaneous Tests of Carbon Tetrachloride, by Maurice C. Hall and Jacob E. Schillinger.

Miscellaneous: Merck's Manual of the Materia Medica, fifth edition. Merck & Co. Informe Anual de la Direccion del Hospital Ruiz, 1922. Tip. La Empresa-Suegart.

REPRINTS.

Investigations on the Control of Hookworm Disease. XII. Studies on the Occurrence, Distribution and Morphology of Necator Suillus, Including Descriptions of the Other Species of Necator, by James E. Ackert, Ph.D., and Florence King Payne, M.D.; XIII. Observations on Conditions Under Which Hookworm Eggs and Larvae Develop, by James E. Ackert, Ph.D.; XIV. Field Experiments on Vertical Migration of Hookworm Larvae (Preliminary Report), by Florence King Payne, M.D.; XV. An Effective Method of Counting Hookworm Eggs in Feces, by Norman R. Stoll, M.S.

Investigations on the Control of Hookworm Diseases: XVI, Variation in Length of Life of Hookworm Larvae from the Stools of Different Individuals, by Donald L. Augustine; XVII, A Quantative Study Defining a Point of Breakdown of Hookworm Eggs Cultured in Feces, and Its Association with Intense Acidity, by Norman R. Stoll, M.S.; XVIII, On the Relation Between the Number of Eggs Found in Human Feces and the Number of Hookworms in the Host, by Norman R. Stoll, M.S. Treatment of Hookworm Disease with Carbon Tetrachloride, by W. G. Smilie, M.D., and S. B. Pessoa, M.D. The Toxaemic Aspect of Ocular Disease, by Percy Dunn, F.R.C.S., Eng. Syphilis of the Lungs, by Nathaniel K. Wood, M.D. U. S. Public Health Reports Nos. 800 and 809. Visual Economics as a Part of Physical Economics According to the Natural Science Method, by Erastus E. Holt, A.M., M.D., LL.D., F.A.C.S.

STATISTICAL DATA FOR THE MONTH OF APRIL, OBTAINED FROM THE RECORDS OF CITY BOARD OF HEALTH.

BIRTHS.		
	White	Colored
Male	267	103
Female	238	96
Totals	507	199
By Physicians	392	312
By Midwives	312	312
Grand Total	903	903
Stillbirths	35	35

DEATHS.					
1921			1922		
	White	Colored		White	Colored
Male	184	124	Male	204	111
Female	150	114	Female	176	142
Totals	334	238	Totals	380	253
Under 1 year		69	Under 1 year		98

	—Cases—		—Deaths—	
	White	Colored	White	Colored
Diphtheria			3	0
Typhoid			5	1
Malaria			0	0
Scarlet Fever			0	0
Whooping Cough			4	5
Influenza			9	13
Measles			0	0
C. S. Meningitis			1	0
Tuberculosis			29	27

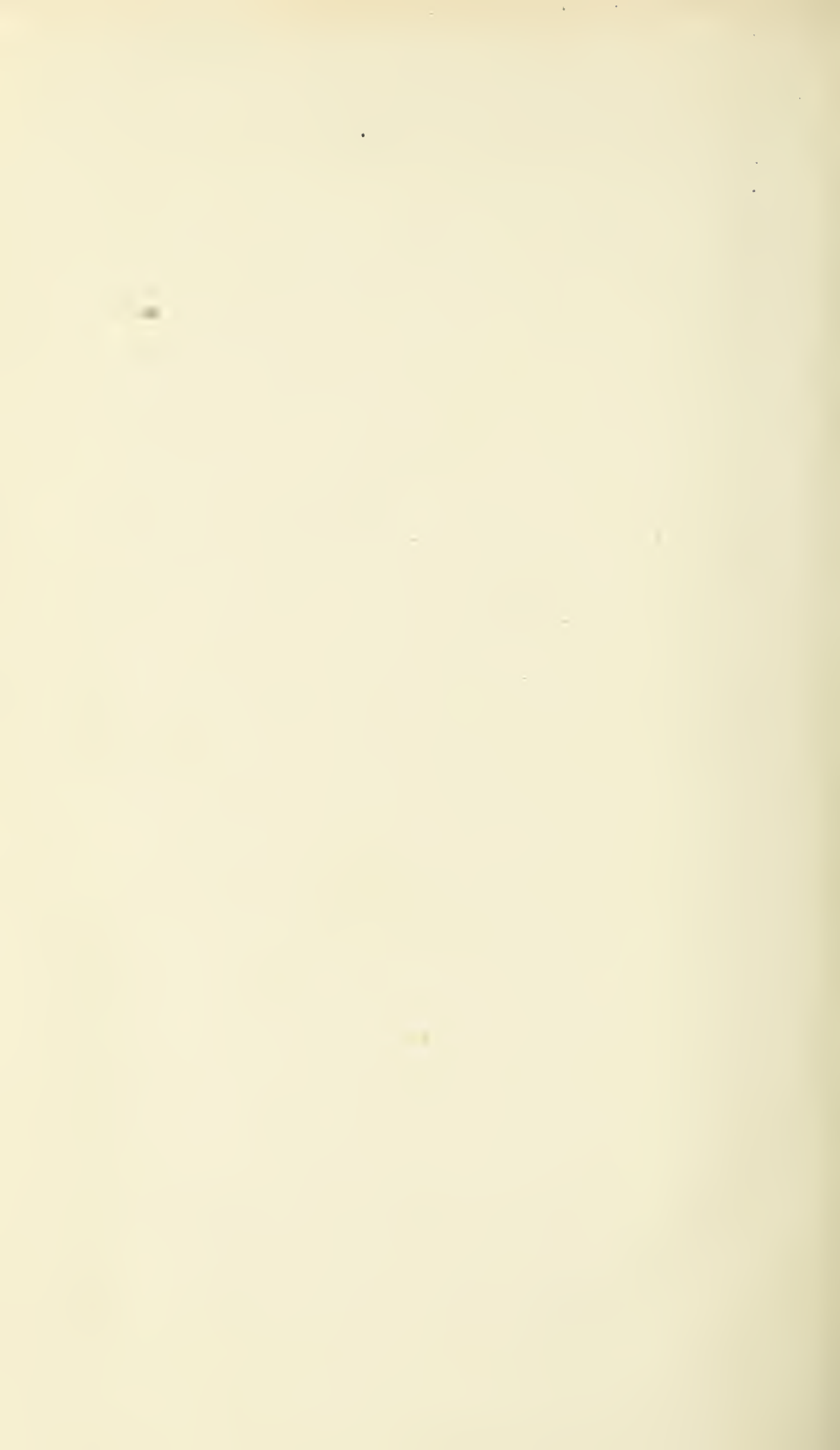
DEATHS.		
	White	Colored
Cancer	32	9
Apoplexy	23	10
Endocarditis and Myocarditis	1	2
Angina Pectoris	5	0
Other Circulatory Diseases	63	39
Broncho-pneumonia	18	14
Lobar Pneumonia	9	11
Other Respiratory Diseases	5	0
Diarrhoea and Enteritis	8	4
Appendicitis	5	2
Other Digestive Diseases	13	5
Acute Nephritis	4	4
Chronic Nephritis	12	7
All Other Genito-Urinary Diseases	7	10
Puerperal State	5	2
Malformations	5	2
External Causes	23	18

DEATH RATE PER 1,000 PER ANNUM FOR THE MONTH.

	Non-residents Excluded:	
White	13.57	12.00
Colored	22.57	20.18
Total	15.92	14.20

Deaths from premature births, violence, etc., are not excluded.





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